

FLIGHT

The
AIRCRAFT ENGINEER
AND AIRSHIPS

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CONTENTS

Editorial Comment :	PAGE
From Europe to South America	243
British Empire Trades Exhibition, Buenos Aires	245
Airport News	246
King's Cup Race	246
World's Records	247
Royal Aero Club Official Notices	248
Sociability	249
Airisms from the Four Winds	250
British Aircraft for Greece	252
Private Flying and Club News	254
Air Transport	255
Gliding	260
Royal Air Force	261
R.A.F. Sport	261
Questions in Parliament	262
Imports and Exports	262

DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

1931

Mar. 24. Dinner to Lt.-Col. F. C. Shelmerdine at Junior A.C.C., Ham Yard, Gt. Windmill St., W.

Mar. 25. R.A.C. Annual General Meeting.

Mar. 27. "Flying of High Speed Seaplanes." Lecture, by Sqdn.-Ldr. A. H. Orlebar, before R.A.S., Hull.

Mar. 28. Association Football: R.A.F. v. R.N. & R.M., Millwall.

Mar. 28. Rugby Football: R.A.F. v. Army, at Twickenham, 3 p.m.

Mar. 31. "Injection, Ignition and Combustion in High-Speed, Heavy-Oil Engines." Lecture, by Dr. S. J. Davies and E. Giffen, before R.A.S.

April 7. Air League Children's Fete, Hanworth Air Park.

April 11-19. National Aircraft Show, Detroit, U.S.A.

April 16. "Aircraft Noise." Lecture, by Dr. A. H. Davis, before R.A.S.

April 22. Air League Annual Dinner, at Dorchester House, Park Lane.

April 27. Closing date of British Empire Trade Exhibition, Buenos Aires.

April 30. "Aerodynamics of Sails." Lecture, by Dr. M. Curry, before R.A.S.

May 3. Flying Meeting at Home. Southern A.C.C., Shoreham.

May 14. "Metal-Clad Airship." Lecture, by C. Fritsche, before R.A.S.

May 15-31. Stockholm Aero Show.

May 25-26. Northamptonshire A.C. Flying Meeting at Sywell.

May 30. London-Newcastle Air Race, for "Newcastle Evening World" Trophy

May 30. Newcastle-Heston Air Race.

June 6. Brooklands Air Meeting.

June 20. Flying Display and Air Pageant, Bristol Airport.

June 26. R.A.F. Dinner Club Annual Dinner.

June 27. Royal Air Force Display, Hendon.

July 8-11. Blackpool International Meeting.

July 25. King's Cup Race.

Aug. 22. Newcastle-on-Tyne Meeting.

EDITORIAL COMMENT



RITISH aeronautics in particular, and British trade in general, owe a great debt to T.R.H. the Prince of Wales and Prince George for having travelled all the way to the Argentine to open the Exhibition at Buenos Aires and for having travelled so much of the way by air. When no British aeroplane was available, they flew in a foreign machine; but great stretches of their journey were covered in aeroplanes from H.M.S. *Eagle*, escorted by other machines of various types which also came from the carrier. No better advertisement of the air and of British aircraft could have been made in South America. Simple and modest as he is, the Prince of Wales is a first-class publicity man. Wherever he goes and whatever he does, he makes a great and sympathetic impression on his public, and usually young and old agree in the desire to do what the Prince does.

In advertising the merits of British aircraft, the Prince, happily, has an easy task. They are of the best, and, once attention is drawn to them, that fact is universally recognised. Hitherto not enough attention has been drawn to them in South America, but the Prince and the *Eagle* between them have now corrected that omission. We understand that the performances of the Hawker "Nimrod" in particular will not soon be forgotten by the Latin-Americans who have witnessed them. The presence of the Prince's private "Puss Moth" at Buenos Aires is also impressive; and there are many other excellent British types to be seen at the aerodrome of El Palomar.

South America is certainly one of the greatest potential markets for aircraft in the world. There is plenty of money in the Latin-American republics. The conditions over many parts of the Continent are exactly those which enable the aeroplane to show up well by contrast with other existing forms of transport. The climate is favourable, the cities are large, the distances are great, and the land communications are not of the best. There are innumerable opportunities for successful air lines, and a vast scope for

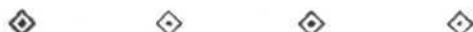
the use of private light aeroplanes by rich *estancieros*. The German-Colombian air service known as the "Scadta," which uses Junkers seaplanes, from Baranquilla on the coast up the Magdalena River to connect with the capital, Bogota, has secured a route which pays such profits that there is no need to trouble about a subsidy. This line is a fine example of German enterprise, which we British must admire, while we regret with a sense of shame the absence of any similar enterprise on our part in South America. The Italians have also shown active interest in South America; and the flight of the squadron led by Gen. Balbo has not only aroused interest and admiration, but has resulted in providing Brazil with a stock of Savoia seaplanes, which may well provoke a desire for more. The United States is constantly engaged in a peaceful penetration of Latin-America for trade, and in particular aeronautical, purposes. We understand, however, that the common sentiment of Latin-Americans prefers the European branch of the English-speaking race, and that they would much rather buy British than buy North American goods. Finally, we must not forget the air and steamer connection between France and South America which has been established by the Compagnie Générale Aéropostale of France.

We British have, in fact, given several other nations a start of some 10 years in the South American market. In air transport the only plum secured has been the German success in Colombia. So far as sale of aircraft to the Governments of the various republics goes, we have held our own without what might be called any very remarkable efforts of salesmanship. For this we must thank the excellent work of our designers and constructors rather than our national qualities of salesmanship. This Exhibition is an attempt to make up the leeway. We do not call it a belated attempt, because we believe that there is an excellent chance of the Exhibition producing large orders for British goods of many descriptions. The other nations have not, on the whole, taken full advantage of the recent British quiescence. Now that the Prince of Wales is heading

a vigorous campaign of British salesmanship, we have every hope of really substantial results.

Though we do hold that hitherto the British aeronautical effort in South America has not been adequate, we are thankful that we do not have to regret any failure as a result of premature attempts to force the pace. We alluded above to the French Cie. Générale Aéropostale's service between France and South America. Though the Atlantic section of the route is traversed by steamer, still the efficiency of the service is so great that photographs of the Prince of Wales and his brother in Buenos Aires have been reproduced in London papers only 10 days after they were taken. Yet the affairs of the company are not in a happy state, as we pointed out in our issue last week. It has, in the vulgar tongue, bitten off more than it can chew. It started too many lines with insufficient capital. It pushed its operation on ahead of technical development. More than one account has been published by travellers which mention the old types of aeroplane used on parts of this route, and the discomforts thereof. The plea is put forward that France had to get ahead or be left behind. The company trusted that fortune would favour the brave, whereas fortune more usually follows good organisation. Three banks which backed the enterprise have closed their doors and suspended operations. The Government has shown willingness to help the company, but the Chamber has not gone all the way with the Cabinet. It remains to be seen what will happen now.

It is always a matter for regret when a flying concern fails to make good, especially one which has begun to win good opinions by the services which it renders to the public. We offer our sincere sympathy to the Cie. Aéropostale. At the same time, we never approve of efforts to push air lines on ahead of technical advances and of sound commercial principles. Air transport is a new development, and it is a delicate matter to handle. On the whole, we prefer the rather over-cautious British method, provided that the results are sound. But now that a real start has been made in South America, we hope to see progress there which is rapid as well as sound.



VICKERS "VESPAS" FOR IRISH FREE STATE AND CHINA; A repeat order has been placed by the Irish Free State Army Air Corps with Vickers (Aviation) Ltd., for four "Vespa" Army Co-operation machines fitted with Armstrong-Siddeley "Jaguar" engines. A "Vespa VI" (Bristol "Jupiter"), as shown above, has also been sent out to China for the purpose of special demonstration flights to the representatives of the National Government of China.



SERVICE SALESMEN: Officers from H.M.S. Aircraft-Carrier "Eagle," who demonstrated British Aircraft at Buenos Aires.

BUENOS AIRES

The Prince Opens the Exhibition

ACCORDING to plan, as indicated in our last issue, His Royal Highness the Prince of Wales opened the British Empire Trade Exhibition in the Rural Society's grounds at Palermo, Buenos Aires, on March 14, under ideal weather conditions. Prior to the opening ceremony, the Prince was entertained at a luncheon by the British engineering and transport institutions, after which the Prince, accompanied by President Uriburu, proceeded to the Exhibition grounds, where he was greeted at the gates by Pipers of the Cameron Highlanders, who escorted the party to the British Government Pavilion, where the opening ceremony took place.

We need not dwell here upon the Prince's two stirring speeches—one in English and one in Spanish—for they have not only been fully reported in the Daily Press, but were also broadcast in this country. It is only our intention now to record that this historic fact was accomplished with success and amidst scenes of enthusiasm and splendour, and to give a résumé of various happenings concerning more directly the aviation side of things.

After the Prince had declared the Exhibition open—which fact was signalled by a flight of pigeons coloured red, white, and blue—he, together with the President and Prince George, made a tour of the Exhibition. During this tour, the Prince was enthusiastic in demonstrating personally the various features of the British aircraft exhibited, and gave the President his personal experiences in flying. At the conclusion of the tour—which was a very thorough one—the Prince said, "I am very pleased with all I have seen, and I am sure the Exhibition will be a success."

In the evening the Prince was the guest of honour at a banquet of the Chamber of Commerce after which the Princes attended a ball on board the aircraft-carrier *Eagle*. Dancing proceeded until after 3 a.m. on March 15, but in spite of all the crowded events up to that time, the Prince of Wales and Prince George left by air on a flying tour of the northern provinces at 2.30 p.m. that afternoon! The Prince used his own "Puss Moth," while Prince George obtained the loan of another "Puss Moth" from the de Havilland Aircraft Co. During his visit to H.M.S. *Eagle*, the Prince of Wales conferred the C.B.E. on Capt. Marcos Zar, Director of Naval Aviation.

Within a few hours of the public being admitted to the Government Pavilion at the British Empire Trades Exhibition which opened at 10 a.m. on Saturday last, three sales of nearly £3,000 in value had been concluded at the De Havilland stand. Two actual show machines were sold, a Gipsy Moth and

a Puss Moth, the purchasers being willing to await delivery until the Exhibition closes next month. The third sale was of a Gipsy Moth to the Bieckert Brewery, Buenos Aires, which already owns two similar machines.

The increased aerial activity arising directly and indirectly in connection with the Buenos Aires Exhibition during the last few weeks cannot but have some effect in making Argentina "Airminded"—or the whole of South America might be included as a matter of fact—with, it is to be hoped, beneficial results for the British aircraft industry. That the demonstrations and performances of British aircraft in the Argentine and elsewhere in South America have created an excellent impression is apparent, but what has given the greatest "leg up" to "the cause" in South America is the aerial activity on the part of our Prince.

To emphasise this point, let us quote from the Buenos Aires Correspondent of the *Daily Telegraph*, who says:

"One fact in connection with the visit of the Prince of Wales is his readiness to use air travel for any and every possible occasion. Flying, to the great majority of the inhabitants of the Argentine, is still more or less of a great adventure.

"The lack of concern with which the Prince has taken to his private 'plane as confidently and unhesitatingly as other people take to their cars has opened the eyes of the public to the value, comfort, speed, and safety of this form of locomotion. His example has done more than a thousand catalogues or exhibition flights and stunts. The favoured few who have had the privilege of sharing his flights are now fervent advocates of the advantages of air travel.

"Point to the moral of his example is given by the wonderful display of British 'planes in the Exhibition, and attached to the aircraft-carrier *Eagle*."

Thus, while it is certain that our Royal Ambassador will, by his visit and enthusiasm, increase British Trade in South America, we feel convinced that the aeronautical side will materially benefit by his efforts—provided our aircraft industry follow up the good impression created.

It now only remains for us to record the following aeronautical happenings in the Argentine during the past few days. Prior to the opening of the Exhibition, the Princes flew, on March 13, from Mar Del Plata to El Paloma aerodrome, Buenos Aires, the Prince of Wales taking over the controls himself during the flight, and circling over the city at about 4,000 ft. before landing. Previous to this, on March 12, the Prince took up a friend, Senor Mitre, in his "Puss Moth."



Airport News

CROYDON NOTES

THE week under review started with mid-winter, and finished with a beautiful burst of spring. Monday morning, snow was general on all the routes, and services were somewhat dislocated. Several morning services had to be cancelled, but there was an improvement later in the day, and the afternoon services were run to schedule. Croydon appeared to be extremely lucky, as only a comparatively thin layer of snow accumulated, although in town there were two or three inches. We were clear of snow a day ahead of any other district, and when the thaw actually set in, there was not a sign of snow at all by the midday.

Who told the press that Imperial Airways were the only company to fly on Monday? Tuesday morning this claim was made in certain papers. Actually all companies flew, although there were several "hold ups" *en route*, for an hour or so, on one or two services. Capt. Dudley Travers put up a very fine show on this day.

The work on the aerodrome surface was held up for the best part of the week, as the ground was too hard to touch, but things are now "under weigh" again.

Our old friend, M. Geysendorffer, is back again with K.L.M., and operated some of the services this week. He will be remembered, together with M. Scholte, as personal pilot to the late Mr. Van Leer Black, the American newspaper magnate, who fell overboard from his yacht recently, and was drowned. Some of their famous flights are well known to our readers, particularly the one to Tokio and back. Geysendorffer is very popular, and a sound pilot, like all the K.L.M. pilots.

On Thursday, Capt. R. McIntosh passed through Croydon

on his way to Paris, on the Segrave Meteor, belonging to the Aircraft Investment Corporation, and returned on Monday of this week.

Also, on Thursday, Lady Bailey arrived from Pisa. She left on the Tuesday morning hoping, I believe, to make a non-stop flight home, but weather conditions were very much against her, and she was compelled to make two stops.

Imperial Airways are making a big thing of joyrides, and are extremely busy with parties of 60 or 70 at a time.

A number of these are being run in conjunction with the Southern Railway. This is going to prove a popular innovation, as the charge, which is very low, includes the journey to Croydon and back, inspection of the aerodrome and workshops of the company, and a ten-minute flight. This will help to make flying more popular among people who have no wish to fly to and from the Continent.

Mr. Robinson has returned from his tour with the "Red-wing" and we were surprised, this week, to see it appear in new colours. It now has a silver-coloured fuselage instead of a biscuit-coloured one, with the red wing.

This week-end, joyriding companies were very busy, and the air around the aerodrome was alive with aircraft.

Mr. Ince, of Heston, pulled off a very fine forced landing on his G-AAXU, when his engine stopped whilst flying over Mitcham.

One really begins to believe that at last the public is becoming airminded. For the companies to be so busy before Easter augurs well for the coming season.

The traffic figures for the week were: Passengers, 405; Freight, 35 tons.

P. B.

THE KING'S CUP

THE following are the Supplementary Regulations for the King's Cup Air Race, which will be held on July 25 next.

Organisation.—The race will be conducted by the Royal Aero Club under the Regulations of the F.A.I. and the competition rules of the Royal Aero Club.

Competitors.—The entrant and pilot or pilots and passengers must be British subjects. The entrant must be an individual and not a company.

Neither the entrant, the pilot, nor passengers (if any) shall be engaged as proprietor, partner, director, official or employee of any firm of manufacturers, dealers or operators in aircraft or aircraft engines, or employed as a professional pilot. R.A.F. pilots of amateur status, as defined above, are eligible.

In order to confine the race to those of amateur status the Royal Aero Club reserves the right to refuse to accept any person as entrant, pilot, or passenger without assigning any reason.

Aircraft.—The race is open to any type of *bona-fide* civil aircraft. The aircraft, including the engine or engines, must have been entirely constructed in the British Empire. For the purposes of the race, a *bona-fide* civil aircraft is an aircraft which was originally designed, and subsequently constructed for use in civil aviation activities. Where a passenger is carried dual control (if any) must be disconnected.

In any question regarding the eligibility of any aircraft, the decision of the Royal Aero Club shall be final. The aircraft entered must have been registered in the name of the entrant since May 30, 1931. Certificate of Airworthiness must also have been issued by that date.

Air Navigation Regulations.—Competitors must comply with the Air Navigation Regulations in force, subject to any concessions which may be made by the Air Ministry for the race.

Certificate of Airworthiness.—The following certificate must be obtained and produced to the Royal Aero Club one week before the date of the race:—An airworthiness certificate of either the normal or aerobatic category in respect of any one of the sub-divisions (a) to (e) inclusive. The aircraft must be equipped with an engine which is classified as belonging to the normal category of engines.

Entries.—The entry fee is £5. This fee, together with the entry form complete with all particulars duly filled in, must

be received by the Royal Aero Club, 3, Clifford Street, London, W.1, not later than 5 p.m., on June 22, 1931. Late entries will be received up till noon, July 1, at a fee of £10. The entrant is responsible for the accuracy of all particulars supplied by him to the club relating to aircraft and engine. The officials may require the entrant at his own expense to submit the aircraft, including the engine or engines or any part thereof, for examination in order to verify these particulars. The Royal Aero Club reserves the right to refuse any entry without assigning any reason.

Course.—The course will be approximately 1,000 miles, starting and finishing at Heston Aerodrome, and must be completed by 10 p.m. on the day of the race.

	Start	Miles
London (Heston)	
Leicester (Desford)	Turning point 86
Norwich	CONTROL 110
Nottingham (Tollerton)	Turning point 102
Brough	Turning point 59
Leeds (Sherburn)	CONTROL 27
Birmingham (Castle Bromwich)	Turning point 90
Woodford	Turning point 58
Hooton	CONTROL 32
Heston	CONTROL 165
Shoreham	Turning Point 45
Hamble	Turning point 44
Bristol (Whitchurch)	CONTROL 66
Heston	Finish 92
Total (approximately) ..		982

Handicap.—The aircraft will be handicapped for the complete circuit according to estimated performances. The minimum speed at which aircraft will be handicapped will be 100 m.p.h. Competitors will be started from London in accordance with their handicap.

The Royal Aero Club reserves the right to adjust handicap allowances following the inspection of the competing aircraft. The Royal Aero Club reserves the right to hold an eliminating contest if necessary.

Prizes.—His Majesty the King, The King's Cup; The Right Hon. Lord Wakefield of Hythe, £500; additional prizes will be announced later.

WORLD'S RECORDS IN AVIATION

WE give below a list of the world's aviation records, as standing on January 1, 1931, in so far as aeroplanes and seaplanes are concerned. Those in respect to light planes and to Balloons, Airships and Gliders will be published on a future occasion. It is of interest to note the terrific number of records standing to the credit of Great Britain!

CLASS C (POWER-DRIVEN AEROPLANES)

(a) Records without refuelling during Flight

Distance (Non-Stop) Cross Country.—7,905.140 km. (4,912.4 miles), France, Costes and Bellonte on Breguet "Superbidon," 600-h.p. Hispano-Suiza, Le Bourget, China, September 27-29, 1929.

Distance (Non-Stop) Closed Circuit.—8,188.800 km. (5,088.5 miles), Italy, U. Maddalena and F. Ceccioni on Savoia-Marchetti "S-64 bis," Fiat A.22, T. May 30-June 2, 1930.

Duration.—67 hr. 13 min., Italy, as above.

Altitude.—13,157 m. (43,168 ft.), U.S.A., Lt. A. Soucek, on Wright "Apache" 450-h.p. Pratt and Whitney "Wasp," at Washington, June 4, 1930.

Speed (Ground Level, 3 km.).—448.171 k.p.h. (278.4 m.p.h.), France, Adj. Bonnet, on Bernard-Hubert V.2, 500-h.p. Hispano-Suiza, at Istres, December 11, 1924.

100 km. (62.14 miles).—401.279 k.p.h. (249.3 m.p.h.), U.S.A., Lt. Bettis on Curtiss R. 3-C I, 600-h.p. Curtiss Mitchel Field, October 12, 1925.

500 km. (310.7 miles).—306.696 k.p.h. (190.6 m.p.h.), France, Sadi Leconte on Nieuport Delage, 500 h.p. Hispano-Suiza, at Istres, June 23, 1924.

1,000 km. (621.4 miles).—275.269 k.p.h. (171 m.p.h.), Czechoslovakia, Comdt. J. Kalla, on Letov S 516, 800-h.p. Asso, at Prague, October 13, 1930.

2,000 km. (1,242.8 miles).—220.428 k.p.h. (136.9 m.p.h.), Spain, Carlos de Haya Gonzales and C. R. Diaz, on Breguet "Superbidon," 600-h.p. Hispano Suiza, at Tablada, October 11, 1930.

5,000 km. (3,107 miles).—208.152 k.p.h. (129.3 m.p.h.), Spain, as above.

Records with 500-kg. (1,102 lb.) Useful Load

Duration.—23 hr. 22 min., France, Costes and Codos, on Breguet 19, 600-h.p. Hispano Suiza, at Istres, January 17-18, 1930.

Distance.—4,361.980 km. (2,710.5 miles), France, as above.

Altitude.—9,374 m. (30,756 ft.), France, J. Burtin, on Breguet 19, 500-h.p. Farman, at Toussus-le-Noble, August 23, 1929.

Speed.—100 km. (62.14 miles).—298.510 k.p.h. (185.5 m.p.h.), U.S.A., Lee Scheinair, on Lockheed Vega mono., 425-h.p., Pratt and Whitney "Wasp," at Jacksonville, February 18, 1930.

500 km. (310.7 miles).—276.375 k.p.h. (171.7 m.p.h.), Czechoslovakia, Comdt. J. Kalla, on Letov S 516, 800-h.p. Asso, at Prague-Nove-Benatky, Prague, October 13, 1930.

1,000 km. (621.4 miles).—275.269 k.p.h. (171 m.p.h.), Czechoslovakia, as above.

2,000 km. (1,242.8 miles).—220.428 k.p.h. (136.9 m.p.h.), Spain, C. de H. Gonzales and C. R. Diaz on Breguet "Superbidon," at Tablada, October 11, 1930.

Records with 1,000 kg. (2,205 lb.) Useful Load

Duration.—18 hr. 1 min., France, Costes and Codos, on Breguet 19, 600-h.p. Hispano Suiza, at Istres, February 15-16, 1930.

Distance.—3,309.9 km. (2,056.7 miles), France, as above.

Altitude.—8,089 m. (26,540 ft.), France, J. Burtin on Breguet 19, 500-h.p. Farman, at Toussus-le-Noble, September 26, 1929.

Speed.—100 km. (62.14 miles).—283.25 k.p.h. (175.9 m.p.h.), U.S.A., Lee Scheinair, on Lockheed Vega mono., 425-h.p., Pratt and Whitney "Wasp," at Jacksonville, February 20, 1930.

500 km. (310.7 miles).—270.8 k.p.h. (168.2 m.p.h.), U.S.A., as above.

1,000 km. (621.4 miles).—252.38 k.p.h. (156.8 m.p.h.), Czechoslovakia, Adj. Vojtech Svozil, on Aero A. 42, 800-h.p. Asso, at Prague, September 20, 1930.

2,000 km. (1,242.8 miles).—205.407 k.p.h. (127.7 m.p.h.), Germany, Hermann Steindorff on Rohrbach-Roland, three 230-h.p. B.M.W., at Staaken, July 31, 1927.

Records with 2,000 kg. (4,410 lb.) Useful Load

Duration.—13 hr. 1 min. 12 sec., Germany, J. Ristic, on Junkers G.24, three 280-h.p. Junkers, at Dessau, June 29, 1927.

Distance.—1,750.469 km. (1,087.7 miles), Germany, Hermann Steindorff, on Rohrbach Roland, three 230-h.p. B.M.W., at Staaken, July 31, 1927.

Altitude.—6,262 m. (20,545.6 ft.), Italy, Domenico Antonini, on Caproni "Ca 73," two 500-h.p. Isotta Fraschini Asso, at Cascina Malpensa, May 26, 1927.

Speed.—100 km. (62.14 miles).—264.628 k.p.h. (164.4 m.p.h.), U.S.A., Leroy Manning and Carl Wenzel on Ford Transport, three 420-h.p. Pratt and Whitney "Wasp," at Dearborn, September 29, 1930.

500 km. (310.7 miles).—215.378 k.p.h. (133.8 m.p.h.), Germany, Hermann Steindorff, on Rohrbach Roland, three 230-h.p. B.M.W., at Staaken, July 28, 1927.

1,000 km. (621.4 miles).—214.855 k.p.h. (133.5 m.p.h.), Germany, as above.

Records with 5,000 kg. (11,025 lb.) Useful Load

Duration.—3 hr. 2 m., Germany, Wilhelm Zimmermann, on Junkers J. 38, two 400-h.p. Junkers L8, and two 600-h.p. L 55, at Dessau-Leipzig, April 10, 1930.

Distance.—501.59 km. (311.6 miles), Germany, as above.

Altitude.—3,586 m. (11,765.6 ft.), France, L. Bossoutrot on Super Goliath, four 500-h.p. Farman, at Le Bourget, November 16, 1925.

Speed.—100 km. (62.14 miles).—184.464 k.p.h. (114.6 m.p.h.), Germany, as for Duration.

500 km. (310.7 miles).—172.95 k.p.h. (107.4 m.p.h.), Germany, as above.

Records with 7,500 kg. (16,537.5 lb.) Useful Load

Duration.—1 hr. 31 min., Italy, Domenico Antonini, on Caproni "Ca 90," six 1,000-h.p. Isotta Fraschini Asso, at Cascina Malpensa, February 22, 1930.

Altitude.—3,231 m. (10,601 ft.), Italy, as above.



Records with 10,000 kg. (22,050 lb.) Useful Load

Duration.—1 hr. 31 min., Italy, as above.

Altitude.—3,231 m. (10,601 ft.), Italy, as above.

Greatest Load to Ceiling of 2,000 m. (6,560 ft.)

10,000 kg. (22,050 lb.), Italy, as above.

(b) Records with re-fuelling during Flight

Distance (Closed Circuit).—5,300 km. (3,293.4 miles), U.S.A., Lts. Lowell H. Smith and J. P. Richter, on the Havilland 4B, 400-h.p. Liberty, at Rockwell Field, August 27-28, 1923.

Duration (Closed Circuit).—553 hr. 41 min., U.S.A., John and Kenneth Hunter, on Stinson-Detroiter mono. 300-h.p. Wright "Whirlwind," June 11-July 4, 1930.

CLASS C bis (SEAPLANES).

Duration.—36 hr. 1 min., U.S.A., Lts. A. Gavin and Z. Soucek, on P.N.12, two 525-h.p. Wright, at Philadelphia, May 3-5, 1928.

Distance (Closed Circuit).—4,308.34 km. (2,677.2 miles), France, Mermoz, on Latécoère 28, 600-h.p. Hispano Suiza, at Marignane, April 11-12, 1930.

Distance (Cross-Country).—3,173.2 km. (1,971.8 miles), France, Mermoz, Dabry and Gimé, on Latécoère 600-h.p. Hispano Suiza, St. Louis, Senegal-Natal, Brazil, May 12-13, 1930.

Altitude.—11,753 m. (38,561.6 ft.), U.S.A., Lt. Soucek, on Wright "Apache," 425-h.p. Pratt and Whitney "Wasp," at Washington, June 4, 1929.

Speed (Ground Level).—575.7 k.p.h. (357.7 m.p.h.), Great Britain, Sq.-Ldr. Orlebar, on Supermarine S-6, Rolls-Royce "R," at Calshot, September 12, 1929.

Speed.—100 km. (62.14 miles).—533.8 k.p.h. (332.49 m.p.h.), Great Britain, F/O. Atcherley, on Supermarine S-6, Rolls-Royce "R," at Spithead, September 7, 1930.

500 km. (310.7 miles).—259.328 k.p.h. (161.1 m.p.h.), U.S.A., Lt. R. A. Ofstie, on Curtiss Navy C.R., 450-h.p. Curtiss D-12, at Baltimore, October 25, 1926.

1,000 km. (621.4 miles).—222.277 k.p.h. (137.9 m.p.h.), Germany, Rolf Starke, on Heinkel H.E.9, 600-h.p. B.M.W. VI at Warnemünde, June 10, 1929.

2,000 km. (1,242.8 miles).—185.931 k.p.h. (115.5 m.p.h.), France, Lts. Paris and Hébert, on Latécoère 28, 650-h.p. Hispano Suiza, at St. Laurent de Salanque, June 21, 1930.

Records with 500 kg. (1,102 lb.) Useful Load

Duration.—31 hr. 1 min., France, Lts. Paris and Hébert, on Latécoère 28, 650-h.p. Hispano Suiza, at St. Laurent de Salanque, July 16-17, 1930.

Distance.—4,202.496 km. (2,611.4 miles), France, as above.

Altitude.—8,208 m. (26,930.4 ft.), U.S.A., Boris Sergievsky, on Sikorsky S-38, two 575 Pratt and Whitney "Hornet," at Bridgeport, July 21, 1930.

Speed.—100 km. (62.14 miles).—259.927 k.p.h. (161.5 m.p.h.), Germany, Rolf Starke, on Heinkel H.D. 38, 600-h.p. B.M.W. VI, at Warnemünde, May 7, 1929.

500 km. (310.7 miles).—235.941 k.p.h. (146.6 m.p.h.), Germany, on Heinkel H.E.9A, 600-h.p. B.M.W. VI.

1,000 km. (621.4 miles).—222.277 k.p.h. (137.9 m.p.h.), Germany, as above, May 10, 1929.

2,000 km. (1,242.8 miles).—185.931 k.p.h. (115.5 m.p.h.), France, Lts. Paris and Hébert, on Latécoère 28, 650-h.p. Hispano Suiza, at St. Laurent de Salanque, June 21, 1930.

Records with 1,000 kg. (2,205 lb.) Useful Load

Duration.—20 hr. 2 min., France, as above.

Distance.—2,854.344 km. (1,773.7 miles), France, as above.

Altitude.—8,208 m. (26,930.4 ft.), U.S.A., Boris Sergievsky, on Sikorsky S-38, two 575 Pratt and Whitney "Hornet," at Bridgeport, July 21, 1930.

Speed.—100 km. (62.14 miles).—235.294 k.p.h. (146.2 m.p.h.), Germany, Rolf Starke, on Heinkel, 600-h.p. B.M.W. VI, at Warnemünde, May 21, 1929.

500 km. (310.7 miles).—235.941 k.p.h. (146.6 m.p.h.), Germany, as above.

1,000 km. (621.4 miles).—190.004 k.p.h. (118.06 m.p.h.), France, Lts. Paris and Hébert, on Latécoère 28, 650-h.p. Hispano Suiza, at St. Laurent de Salanque, June 22, 1930.

2,000 km. (1,242.8 miles).—185.931 k.p.h. (115.5 m.p.h.), France, as above.

Records with 2,000 kg. (4,410 lb.) Useful Load

Duration.—16 hr. 39 min., U.S.A., Lts. A. W. Corton and E. E. Reber, on P.N. 12, two 525-h.p. Pratt and Whitney "Hornet," at Philadelphia, July 11-12, 1928.

Distance.—2,150 km. (1,336 miles), U.S.A., as above.

Altitude.—6,074 m. (19,928.8 ft.), U.S.A., Boris Sergievsky, on Sikorsky S-38, two 425-h.p. Pratt and Whitney "Wasp," at Stratford, August 11, 1930.

Speed.—100 km. (62.14 miles).—220.026 k.p.h. (136.7 m.p.h.), France, Prevost, on Latécoère 28, 650-h.p. Hispano Suiza, at St. Laurent de Salanque, Mar. 5, 1930. 500 km. (310.7 miles).—202.092 k.p.h. (125.5 m.p.h.), France, as above.

1,000 km. (621.4 miles).—177.279 k.p.h. (110.1 m.p.h.), Germany, Richard Wagner, on Dornier Superwal, four 480-h.p. Gnome-Rhône "Jupiter" at Friedrichshafen, February 5, 1928.

2,000 km. (1,242.8 miles).—130.427 k.p.h. (81.04 m.p.h.), U.S.A., Lts. A. W. Corton and E. E. Reber, on P.N.12, two 525-h.p. Pratt and Whitney "Hornet," at Philadelphia, June 11-12, 1928.

Records with 5,000 kg. (11,025 lb.) Useful Load

Altitude.—2,000 m. (6,562 ft.), Germany, Steindorff, on Rohrbach Roma, three 500-h.p. B.M.W., at Travernuende, April 17, 1929.

Greatest Load to Ceiling of 2,000 m. (6,560 ft.)

6,450 kg. (14,222.25 lb.), Germany, as above.



at 720 b.h.p. The consumption during this test was only 0.370 lb. per b.h.p., and as one would expect, the engine was in perfect condition when dismantled for inspection after the test. The very low weight is, perhaps, rather interesting, as at this new rating it works out at a shade over 2.5 lb. per b.h.p.

THE ROYAL AERO CLUB OF THE UNITED KINGDOM

OFFICIAL NOTICES TO MEMBERS

REPORT of meeting of the Committee of the Royal Aero Club held at 3, Clifford Street, London, W.1, on Wednesday, March 11, 1931, at 5 p.m.

Present :—The Right Hon. Sir Philip A. G. D. Sassoon, Bart., P.C., G.B.E., C.M.G., M.P., in the Chair; Commander James Bird, O.B.E.; Griffith Brewer; Capt. H. S. Broad; W. Lindsay Everard, M.P.; Major Alan R. Goodfellow; Colonel F. Lindsay Lloyd, C.M.G., C.B.E.; F. Handley Page, C.B.E.; Major H. A. Petre, D.S.O., M.C.; H. E. Perrin, Secretary.

Election of Members :—The following new members were elected:—George Birkett, Hubert Walter Dennis, Major Arthur Wilfrid Farwell, Harold Roderick Gillman, Flying Officer Herbert Cecil Hayter, John Alexander Douglas McCurdy, Richard Oliver Irving Muntz, Dr. Gerard Petit, Kenneth Shenstone, Victor William Frederick Stephenson, Leslie Allan Walters.

Aviators' Certificates.—The following Aviators' Certificates were granted:—

9698	William Helmore	..	Royal Air Force.
9699	John C. H. Mercer	..	West Kent Fl. School.
9700	Dieudonnee Vallance	..	Bristol & Wessex Ae. C.
9701	Jane A. M. T. Ayre	..	Hull Ae. C. (N.F.S.)
9702	Arthur Leighton Patterson	Phillips & Powis Fl. School.	
9703	Michael Harrington Dwyer	Phillips & Powis Fl. School.	
9704	Albert Eustace Short	..	
9705	Elizabeth Penn Hughes	R. A. E. Ae. C.	
9706	George Henry Patchett	Lancashire Ae. C.	
9708	Pierre Albert Charpentier	Airwork Fl. School.	
9709	Philip F. M. Pedley	..	Hanworth Club. (N.F.S.)
9710	James Sudworth	..	R.A.E. Ae. C.
9711	John Chapman	..	Hanworth Club (N.F.S.)
9712	Gilbert F. M. Wright	..	Brooklands Fl. School.
9713	Alfred Eugene Leclair	..	Brooklands Fl. School.
9714	William J. G. Gibbs	..	Hampshire Ae. C.
9715	John Francis	Brocklehurst	Lancashire Ae. C.
9716	Henry R. S. Birkin	..	De Havilland Fl. School.
9717	Rowland Henry Bound	..	Hampshire Ae. C.
9718	Gordon Drysdale Brown	..	London Ae. C.
9719	Colin Pomeroy Dick	..	Hanworth Club (N.F.S.)
9720	James Sumner Roger	..	Hull Ae. C. (N.F.S.)
9721	John O. E. Vandeleur	..	Airwork Fl. School.
9722	Roland Cunningham	Roland Cunningham	Henderson Aviation Bureau
9723	Frederick A. S. Waldron	..	Brooklands Fl. School.
9724	Ronald H. S. Brown	..	Leicestershire Ae. C.
9725	Frances Evelyn Pyddoke	..	Nottingham Fl. C. (N.F.S.)
9726	John Whately Pyddoke	..	Nottingham Fl. C. (N.F.S.)
9727	Percy MacGregor Watt	..	Royal Air Force.
9728	Gerard Eustace Smith	..	Newcastle Ae. C.
9729	Maurice Rupert Berney	..	Hampshire Ae. C.
9730	Gerard d'Erlanger	..	Airwork Fl. School.
9731	Gerald Aubrey Alderson	..	Marshall's Fl. School.
9732	Ernest Wilfred Kennett	..	Cinque Ports Fl. C.

Gliding Certificates.—The following Gliding Certificates were granted:—

112	Albert C. O. Warren (A)	..	Surrey Gl. C.
113	E. C. Gordon England (A)	..	Hanworth.
114	Mogens L. Bramson (A)	..	Hanworth.
115	Harry M. Schofield (A & B)	..	Hanworth.
116	Robert Cockburn (A)	..	Portsmouth & Southsea Gl. C.
117	Miss Marian C. Johnston (A)	..	North Cotswold Gl. C.
118	Douglas I. Spencer (A)	..	Driffield & Dist. Gl. C.
119	John Lloyd (A)	..	Glasgow Gl. C.
120	Gregor Cameron (A)	..	Glasgow Gl. C.
121	Cecil C. Paterson (A)	..	Sailplane C.
122	J. K. W. Wheatley (A)	..	Surrey Gl. C.
123	M. H. Findlay (A & B)	..	Hanworth.
124	Cecil Palmer (A)	..	Surrey Gl. C.
125	A. H. Anderson (A)	..	Glasgow Gl. C.
126	E. K. Wallis (A)	..	Leeds Gl. C.
127	S. M. Thompson (A)	..	Leeds Gl. C.
128	E. A. L. Parker (A)	..	Southdown Skysailing C

4	M. L. McCulloch (C)	..	London Gl. C.
13	Thomas G. Humby (C)	..	London Gl. C.
22	Reginald G. Robertson (B)	..	London Gl. C.
23	Thomas E. Lander (B)	..	London Gl. C.
24	Hamish Allan (B)	..	London Gl. C.
53	Donald C. Smith (B & C)	..	London Gl. C.
72	Charles Elliott (B)	..	London Gl. C.

Ballot for Committee

The nominations for the nine vacancies on the Committee were reported. Messrs. Andrew W. Barr & Co., the Club's auditors, were appointed scrutineers of the ballot.

The names of members nominated for the Committee are: Commander James, Bird, O.B.E.*; G. E. F. Boyes; Griffith Brewer*; Lieut.-Col. M. O. Darby, O.B.E.*; Flt.-Lieut. G. H. Du Boulay; Capt. Robert A. Grosvenor; Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S.*; Lieut.-Com. Glen Kidston, R.N.; Capt. A. G. Lamplugh; Air Vice-Marshal C. A. H. Longcroft, C.B., C.M.G., D.S.O., A.F.C.; Lieut.-Col. Sir Francis K. McClean, A.F.C.*; F. Handley Page, C.B.E.*; Lieut. R. L. Preston; The Right Hon. Sir Philip A. G. D. Sassoon, Bart., P.C., G.B.E., C.M.G., M.P.*; Capt. C. B. Wilson, M.C.*

* Retiring members of the Committee.

Segrave Trophy

The Club's recommendation for the award of the Segrave Trophy for the year 1930 was left in the hands of the Club's representatives on the Awarding Committee, Col. F. Lindsay Lloyd and Major A. R. Goodfellow.

Britannia Trophy

The award of the Britannia Trophy for the year 1930 was deferred to the next meeting.

Lloyd's Register of Shipping (Aviation Advisory Committee)

Sir Philip Sassoon kindly consented to remain on the Aviation Advisory Committee as representing the Royal Aero Club.

International Touring Competition

It was decided to make a provisional entry for the 1932 Competition, and to send a representative to the Conference to be held in Bucarest in June to settle the final conditions.

RACING COMMITTEE

A meeting of the Racing Committee was held on March 4, 1931.

Present : Lieut.-Col. M. O. Darby, O.B.E.; Flt.-Lieut. D. W. J. Bonham-Carter; Capt. H. S. Broad; Capt. W. Dancy; Major A. R. Goodfellow; R. Ashley Hall; Major R. H. Mayo, O.B.E.; Sqdn.-Ldr. H. M. Probyn; H. E. Perrin, Secretary.

King's Cup, 1931

Course.—(Start) Heston Air Park. Controls and turning points: Leicester, Norwich, Nottingham, Brough, Leeds, Birmingham, Woodford, Hooton, Heston, Shoreham, Hamble, Bristol. (Finish) Heston Air Park.

Date.—Saturday, July 25, 1931.

Blackpool International Aviation Meeting

The following committee was appointed to carry out the organisation: J. C. Cantrill; Major C. J. W. Darwio, D.S.O.; Major A. R. Goodfellow; R. Ashley Hall.

Vacancy on Racing Committee

Sqdn.-Ldr. H. M. Probyn was elected to the Racing Committee to fill the vacancy caused by the death of the late Air Commodore C. R. Samson.

Royal Air Force Support at Civil Aviation Meetings, 1931

In accordance with the recommendations of the General Council of Associated Light Aeroplane Clubs, Royal Air Force support for Civil Flying Meetings for 1931 has been allocated as follows: Blackpool International Aviation Meeting, July 8 to 11; Newcastle-on-Tyne Aviation Meeting, August 22.

Offices : THE ROYAL AERO CLUB
3, CLIFFORD STREET, LONDON, W.1.
H. E. PERRIN, Secretary

SOCIABILITY

HERE is no doubt there is a growing market amongst those who have recently learnt to fly, for an aircraft having the seating arranged on the side-by-side plan. After all, when one comes to look at it purely from the purchaser's point of view, it does seem barbarous to offer machines in which the passenger has to sit either in front or behind the pilot, and with whom he can only communicate by bellowing down a length of tubing. We cannot help thinking that had motor-car manufacturers adhered to such a practice they would never have appealed to the general public like they have done. Shortly after the war, the Bedelia and Peugeot Companies tried to market light two-seater tandem models, but in both cases they very soon died natural deaths. Certainly the tendency in aircraft is now towards having the passengers sitting side-by-side, as in the Desoutter and Puss Moth. In fact, the only break-away in this respect for that class of machine is the Navarro Chief, where the passengers sit behind each other. In the two-seater class, however, side-by-side seats are still comparatively rare, and the only representatives of these at present flying in this country are the Bluebird, the Civilian Coupé, the Robinson Redwing and the Surrey Flying Services A.L.1.

We recently made a short test of these last two and found them to have several definite features which should appeal to the coming generation of pilots in particular. The Surrey machine is frankly only experimental, and has not yet been placed on the market. It is certainly quite a fascinating little machine, with a good performance and an admirable take-off, and low landing speed. Accommodation is at present a trifle cramped, and the detail work embodies several features which will certainly be modified before it ever goes into production. The view on the whole is not at all bad, although it naturally suffers from a defect which is general to this type, in that when taxiing on the ground the pilot is very blind on the far side of the machine. The engine fitted is the Salmson seven-cylinder radial 90 h.p., which makes an exceptionally smooth and quiet power unit, and probably now that the British Salmson Aero Engines, Ltd., of New Malden, Surrey, are going ahead with their sales policy we shall see many more of these engines fitted before long. The Redwing comes into rather a different category, since although it is similar in that it is an open two-seater biplane, its specification has definitely been drawn up, having regard to the factors desirable for the newcomer to aviation. There has frankly been no attempt to procure exceptional high top speed at the expense of other features,

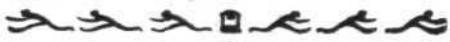


The Redwing being flown by Flight-Lieut. Russell, who is the Robinson Aircraft Co.'s chief pilot. The clean lines of the fuselage should be noted. (FLIGHT Photo.).

but, in spite of that, a cruising speed of 85 m.p.h. is easily obtainable, while the landing speed is as low as 30 m.p.h. The top speed is in the region of 95 m.p.h., so that the speed range is really exceptional. Neither the take-off nor the landing present the slightest difficulty in the Redwing, and the veriest novice should feel at home in this machine in a very short time. In the air she can, if necessary, fly astonishingly slowly, and the Martlesham figure for the stalling speed is 33 m.p.h. The undercarriage is flexible, and does its job well, and even without brakes, the landing run is very short indeed. The cockpit itself is wide enough for all normal people and quite free from draughts. We should have thought that a Cellon panel in the top centre section would have been a great advantage, since the view upwards is, of course, bad, and especially so, as there is no petrol tank there to make this impossible. In the air the Redwing at once inspires one with confidence, and has just that degree of stability which sets the inexperienced at ease, particularly when flying in bad weather. The Robinson factory has now been greatly expanded, and some 50 hands are employed on the first batch of 20 machines. The works are being run on a combination of English and American ideas, and we confidently expect that they will have no great difficulty in disposing of this first batch. At a price of £660, complete with dual control, the machine should have a distinct appeal to those who want a machine which is easy to fly and absolutely safe, and are prepared to sacrifice a small amount of cruising speed in return for this safety coupled with sociability.



A three-quarter rear view of the Surrey Flying Services A.L.1. It will be seen that the cockpit is behind the trailing edge of the top wing. (FLIGHT Photo.).



Airisms from the Four Winds

Lady Bailey's African Survey Flight

LADY BAILEY arrived back at Croydon on March 12 from Africa, where she has been carrying out survey flights over the Libyan desert in connection with Miss Caton-Thompson's archaeological and geological survey of the Kharga Oasis. Lady Bailey made a number of flights over the Kharga and Dakhla Oases and surrounding deserts, and valuable information as to sand-buried sites was obtained and recorded by aerial photography. It is stated that Miss Caton-Thompson—who is Director of Excavations for the Royal Anthropological Institute—and her colleague, Miss E. W. Gardner, F.G.S., will return next season to follow up the information disclosed for the first time by Lady Bailey's flights.

Miss Reynolds's Flight to Africa

AFTER having experienced several delays at the outset of her flight to Capetown, via the West Coast route, Miss Delphine Reynolds is at last making progress. Miss Reynolds, it will be remembered, set out from Hanworth in her Blackburn "Bluebird" (D.H. Gipsy III), accompanied by Fl.-Lt. W. G. Pudney, on March 1. They left Bordeaux for Toulouse on March 4, but were obliged to return owing to bad weather. However, they reached Perpignan, on March 5, but when flying from Alicante to Malaga on March 9 were again held up by bad weather. Casablanca was reached on March 11 and Agadir next day, landing in a heavy rainstorm. Bathurst was reached on March 17.

Capt. Campbell Black Rescues Herr Udet

CAPT. CAMPBELL BLACK, who was flying his Puss Moth from England to Kenya, has been the means of rescuing the well-known German pilot, Herr Udet, from an awkward position in the Sudan. Herr Udet was flying home after completing a film expedition in Tanganyika, and had to make a forced landing in the scudd country of the Upper Nile, near Malakal. Capt. Black learned at Khartoum that Herr Udet was overdue, and kept a look-out for the latter's machine, which he succeeded in spotting. He managed to

land alongside with difficulty, and was able to give Herr Udet much-needed supplies of food and water—and cigarettes! He then flew on to Juba and reported the stranded airman's position to Khartoum.

The Junkers Altitude Machine

It is now a year or more since the Junkers works at Dessau, Germany, began preparations for building an experimental aircraft intended for research work at considerable altitudes. Lately, rumours have got about that the machine is to be used for attaining hitherto impossible heights. This is not the case, and the Junkers firm has asked us to point out that the present machine will not, and is not intended to exceed the altitudes already reached. What the machine is, in fact, is a flying altitude laboratory. The machine, a Junkers monoplane with Junkers supercharged engine, will have a flying weight of approximately four tons. The cabin has been built with double walls, airtight and strong enough to sustain considerable pressure. All controls are led out through the walls by air-tight conduits, and ground-level air pressure will be maintained in the cabin by means of a compressor. The preliminary flights will be made with the supercharger already available, and when sufficient data have been collected by flights with this, a new and improved supercharger will be built and installed in the same machine. Thus the "inter-planet" aircraft is still a long way out in the future, and the present experiment is but a preliminary, although serious, step in the evolution of the future machine which will fly at heights thereby enabling great velocities to be attained. The present machine will not have a performance materially different from that of the ordinary aeroplane.

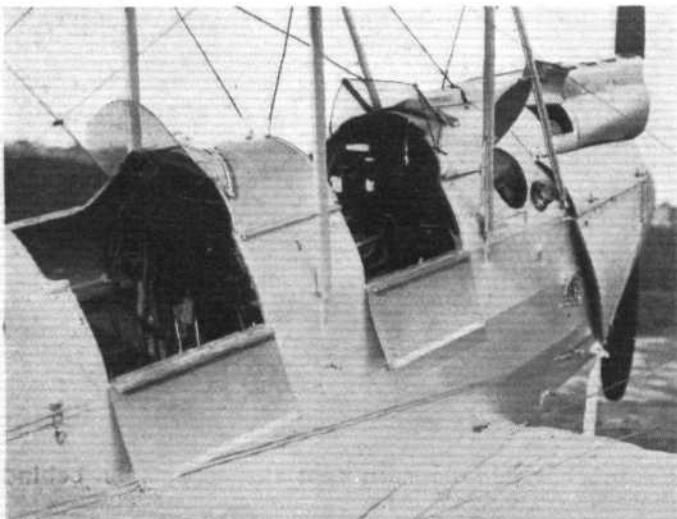
Air Estimates Debate

MR. MONTAGUE, Under-Secretary for Air, introduced the Air Estimates in the House of Commons on Tuesday, March 17. His speech followed fairly closely the lines of the Secretary of State's Memorandum, which we published in our issue last week. The one important piece of news



SERVICE MOTHS FOR IRAQ

Three views of one of the four D.H. metal Moths (Gipsy II) which have been specially prepared for use by the Iraq Government Air Force. A general view of the machine is shown at the top, while below, on the left, will be seen the cockpits and, on the right, the bomb rack



which Mr. Montague was able to announce was that draft agreements had now been reached with both Italy and Greece with regard to the Empire services of Imperial Airways. It was agreed with Italy that Imperial Airways shall be permitted to operate landplanes via Milan, Bimini, and Brindisi; and for a period of one year (which may be extended for a further year) the company may again use the Genoa, Naples, Corfu route with seaplanes. In return, an Italian company, nominated by the Italian Government, may operate services to the United Kingdom, Gibraltar, Malta, Cyprus, or Aden. It is proposed that the Convention shall be for 10 years.

The agreement with Greece will permit Imperial Airways to use either the Italy, Corfu, Athens, Alexandria route or the mid-European through Salonika to Athens.

Mr. Montague also said that a tentative scheme had been prepared for a weekly air mail service between Calcutta and Australia, on the basis of an Indian State Service between Karachi and Calcutta, in conjunction with Imperial Airways.

The full text of the speech and a summary of the debate which followed will be published in our next issue.

Investigation of Accidents

THE Marquess of Londonderry, in the House of Lords, asked the Government, on March 11, whether they would consider giving greater publicity to investigations into accidents to aircraft engaged in public transport, where loss of life or serious injury was involved. He said that he was not suggesting that the Air Ministry had any desire to hide the causes of such accidents. Lord Amulree, Secretary of State for Air, agreed that the Air Ministry had no such desire. He denied that there was any analogy between air accidents and railway accidents. Hitherto, the Air Ministry had been chary as to publishing the report of the Inspector of Accidents; in the last 10 years, only six reports had been published out of about 130 investigations. The time had come when publicity might be wisely extended. In future, the conclusions of the inspector would be published in the case of all accidents in this country to British civil aircraft plying for

hire which involved loss of life or serious injury. There would also be publication in other cases which presented special features or where useful lessons could be learned.

Sir John Salmond Flying to the Near East

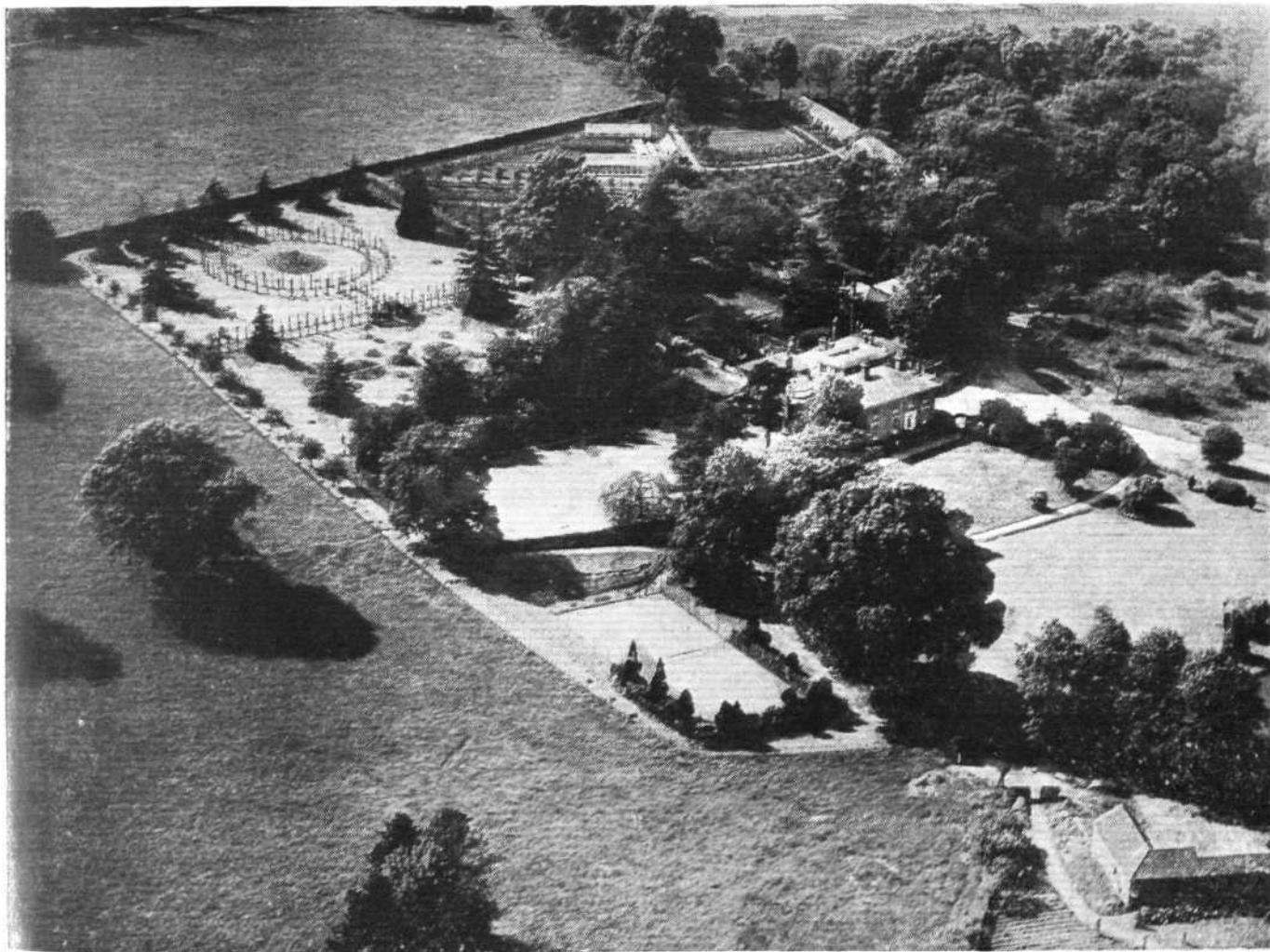
AIR CHIEF MARSHAL SIR JOHN SALMOND, Chief of the Air Staff, leaves London, on March 30, to make a tour of inspection of Royal Air Force stations in the Middle East Command. He will travel to Marseilles by ordinary train and steamer, and there he will be picked up by the two Blackburn "Iris" flying-boats of No. 209 F.B. Squadron, which will start off from Mount Batten for Marseilles next week. The squadron will carry the Chief of the Air Staff to Malta on the first day, and on the next they will fly on to Sollum, on the Egyptian coast. There Sir John will change into a Royal Air Force landplane and will fly on to Cairo. After inspecting the stations in Egypt, he will next fly to Palestine and Transjordan and inspect the stations there. The details of his return, which will doubtless also be by air, have not yet been settled.

Cirrus-Hermes Developments

A NEW company, called the Cirrus-Hermes Engineering Co., Ltd., with registered offices at 274, Gresham House, Old Broad Street, London, E.C.2, has been formed, and has acquired the goodwill, plant and machinery and all other assets of Cirrus Aero Engines, Ltd., together with their works at Croydon Aerodrome, Surrey. The directors of the new company are Mr. H. L. Watkins, Mr. E. D. Basden, Mr. Henry Morgan, Mr. F. W. E. Morgan, and Mr. W. H. Watkins. The new company takes over the world-wide service of Cirrus Aero Engines, Ltd., and will be carrying on the development of the inverted Hermes, which is already flying and doing well in at least two machines, as well as the upright Hermes and other Cirrus engines.

Damages for Lady Heath

IT is reported from Jersey City that the Workmen's Compensation Bureau has awarded Lady Heath a settlement of \$3,000 (£600) for injuries sustained when her aeroplane crashed last August at Cleveland.

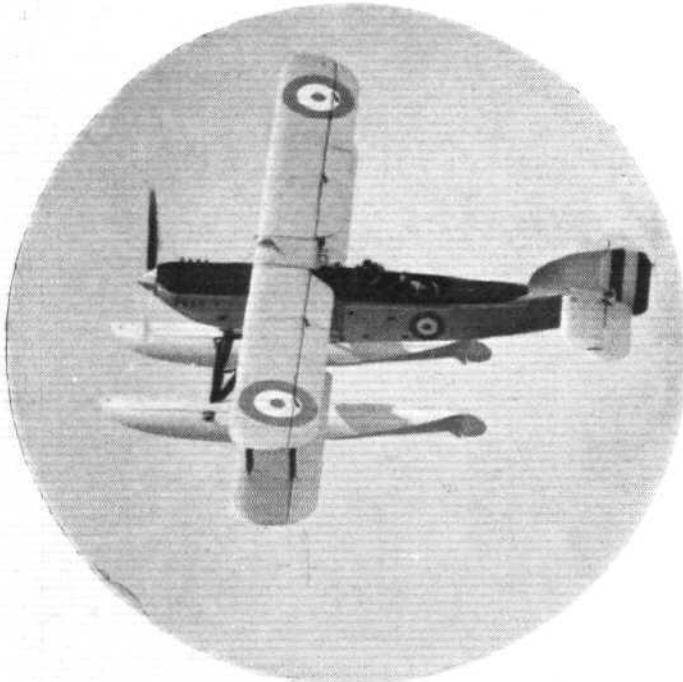
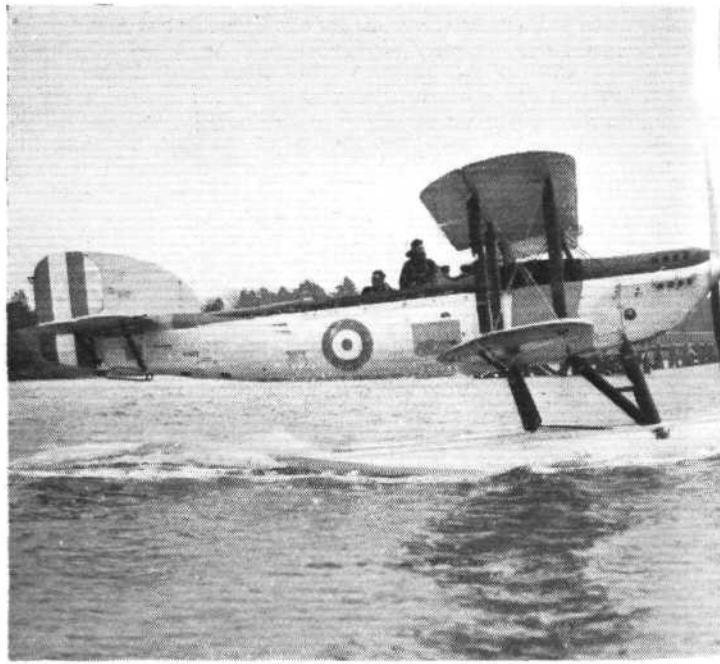
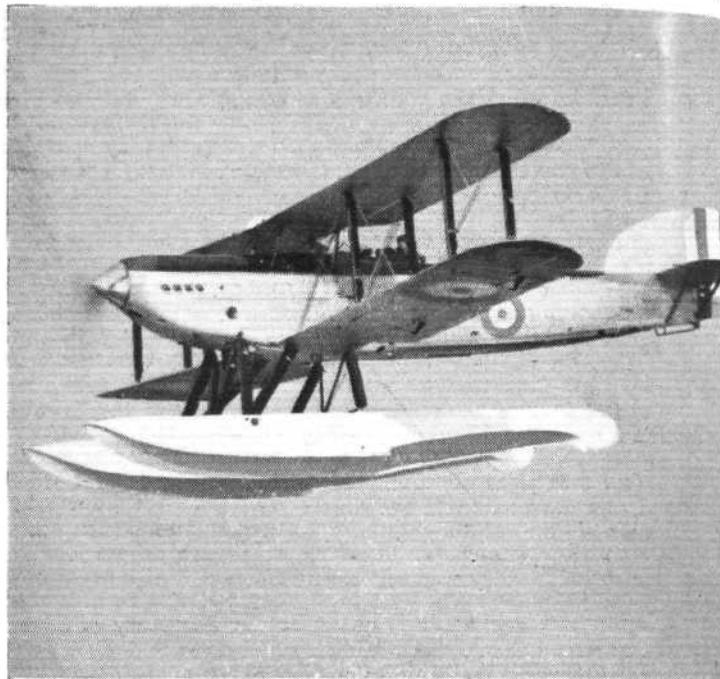


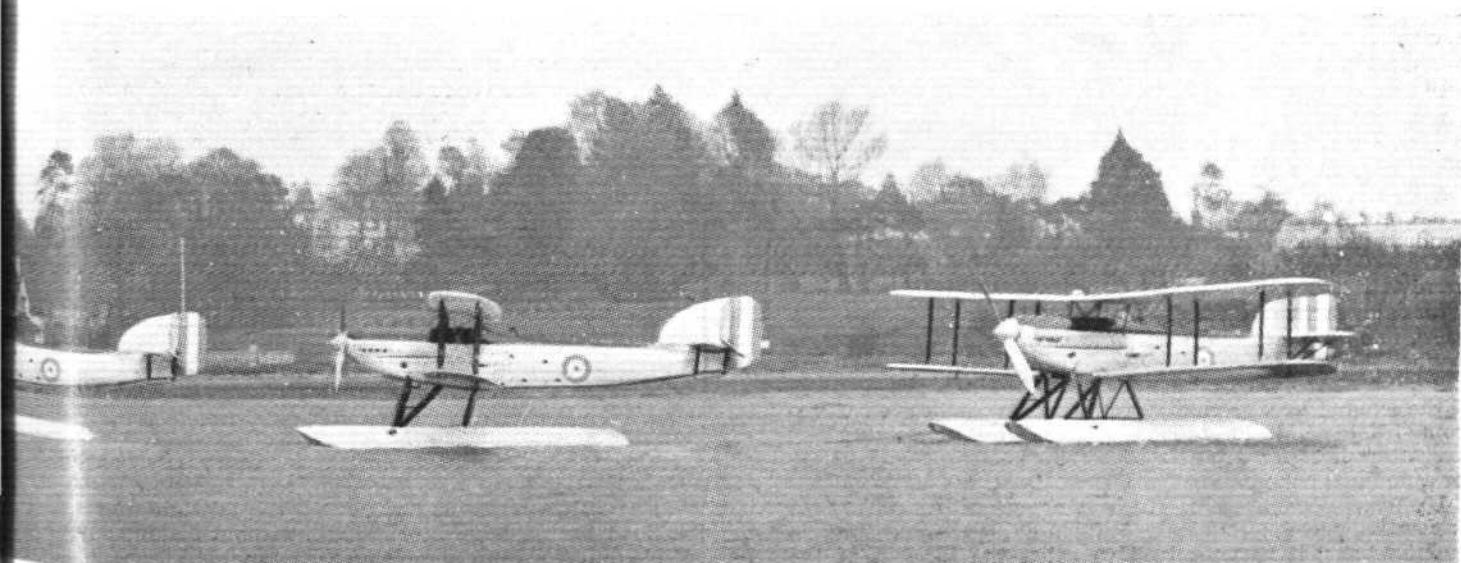
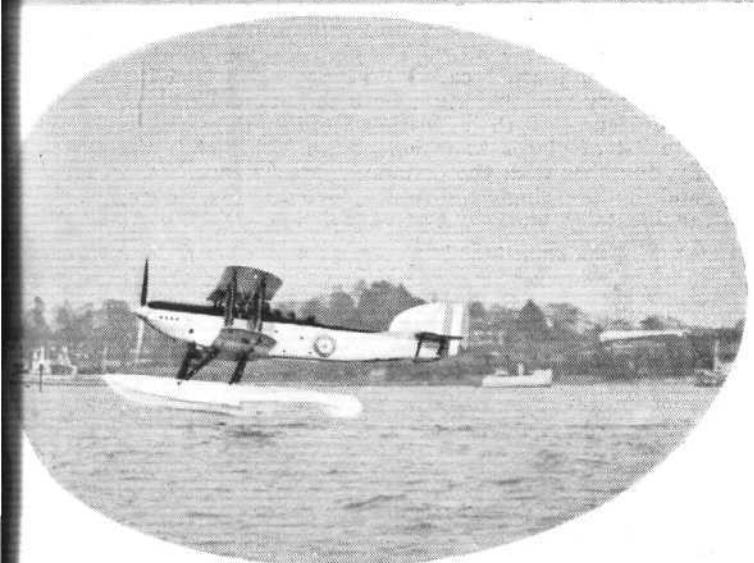
"WOODLANDS": An aerial peep into the privacy of a well-known British Aircraft constructor. Mr. C. R. Fairey's beautiful house at Iver Heath, Bucks. (FLIGHT Photo.)

BRITISH AIRCRAFT FOR GREECE

Fairey Company's Substantial Order

GRADUALLY the truth of the old saying, "the best is cheapest in the long run," is being realised by more and more foreign buyers of aircraft. For a number of years, the British aviation industry was handicapped by the fact that, chiefly due to the very stringent system of supervision under which they are produced, British aircraft were a good deal more expensive than aircraft which could be obtained elsewhere. The result was that many European and other foreign nations examined British aircraft, found them good, but, when the price was mentioned, shrugged their shoulders and bought elsewhere. It would doubtless have been possible to compete in the matter of price by designing and building specially for foreign markets, without the elaborate systems of inspection upon which the British Air Ministry insists, but the majority of British aircraft constructors preferred to adhere to the high standard which had been set, even if by so doing a certain number of orders were lost. Time has proved this policy sound in the long run. Many foreign governments who bought large numbers of aircraft outside Great Britain have found that, although the original cost was low, and the terms favourable, the question of maintenance has gradually assumed such proportions as to nullify very largely the low prime cost.





In the meantime, British aircraft constructors have got thoroughly into their stride with all-metal construction, and a sufficient period of time has elapsed to show the excellent qualities of robustness and long life of British aircraft. The effects are now beginning to be felt, and foreign orders are being placed for British aircraft in increasing numbers, so much so that recently in the French Chamber complaints were made (during a debate) that more than twenty foreign air services were ordering British machines.

Only a short time ago the Fairey Aviation Company received a very large order from the Belgian Government for "Foxes" and "Fireflies," and to this has now been added a substantial order from Greece for Fairey III F.'s with Napier "Lion" engines. A batch of six of these machines were put through their tests at Fairey's Hamble seaplane station last week before Captain Phocas, Greek Naval Attaché, and Lieut.-Com. Averoff, of the Greek Navy. These six machines are but a part of the order, which calls for a considerable number of machines.

The Fairey III F. (Napier) machines ordered by Greece are all required to have interchangeable wheel and float undercarriages, and during a visit to Greece, Fairey's chief test pilot, Mr. McMullin, demonstrated the machine both as a landplane and as a seaplane.

The III F. (Napier) is so well known to readers of FLIGHT that a description is not needed here, but it may be pointed out that the floats fitted are of a new type, in which, in addition to the normal transverse step, there is a fore and aft step along each chine from bows to transverse step. In other words, the vee bottom does not extend right to the chine, but joins a horizontal surface some 6 in. wide, which extends inboard from the chine. This float shape, although of such simple lines that no panel beating is required, has a marked influence on the clean running, the fore and aft steps deflecting the water and preventing the spray from rising to any great height. In alighting, the sharp vee bottom of the aft portion of the floats cut in with scarcely any spray, and the machines land remarkably cleanly.

Private Flying & Club News

HANWORTH Club will be holding a luncheon to the Council of the Society of British Aircraft Constructors on Sunday, March 29, at 12.30 p.m. for 1 p.m. Tickets 6s. 6d. each, including wine, can be obtained from the club Manageress, and should be applied for not later than March 27. The Air League of the British Empire will be holding an Easter Party on Tuesday, April 7, at 3 p.m., and the programme, which has been drawn up particularly to interest children, will include a flying display, towed gliding, and joy-riding. Tickets, including tea (Adults, 5s.; children, 2s. 6d.), can be obtained from the Manageress.

PHILLIPS & POWIS, LTD., of Reading, totalled 143 hr. 20 min. flying last month. A new and exceptionally well-appointed clubhouse is being put up for the Reading Aero Club by the En-tout-Cas Co., Ltd., of Syston, near Leicester, and the opening date, which will coincide with a pageant, will be announced shortly. Among those taking their "A" licences at the club, are Señor Huidobro, a Chilean gentleman who is returning to Chili with the agency for Handley Page aircraft and Mr. A. G. Sims, Managing Director of Robert Cort and Sons, the large engineers and ironfounders of Reading. Mr. Cort is over fifty years of age, but is firmly convinced that flying on his business has, in many cases, procured him orders through his being able to be on the scene before others.

CINQUE PORTS FLYING CLUB managed to get in a total of 22 hours 15 minutes, for the week ending March 14, in spite of the high wind experienced, and Mr. Newman, who is acting as their instructor *pro tem*, produced two "A" licences and a first solo.

THE MONTREAL LIGHT AEROPLANE CLUB as most people know, issue a monthly publication which is extremely well got-up. They often have very sound common sense embodied in articles written in a light vein, and some of these have been republished in FLIGHT, but none have come up to the standard of "Laws of the Pilot," which is a new rendering of the "Laws of the Navy" as written by Capt. Ronald Hopwood, R.N. We regret that space does not allow us to publish this masterpiece and suggest that every club, if not individual members, should write to the Montreal Club, Room 308, 610, St. James' Street, Montreal, and obtain a copy.

CLUB FLYING IN NEW ZEALAND.—The Auckland Aero Club, in New Zealand, seems to be a very wideawake organisation, from which some English clubs might learn something in the way of



The Bluebird (Gipsy III) upon which Miss Delphine Reynolds and Mr. W. G. Pudney are flying to the Cape by the West Coast route. (FLIGHT Photo.)



G.A.P.A.N.

A MEETING of the Court of the Guild was held on Monday, March 9, at the offices of the Royal Aeronautical Society, 7, Albemarle Street, W, at 6 p.m., and matters of interest discussed, included:-

Johnston Memorial Fund.—Out of the several designs, the Court has now selected a suitable trophy in the form of a plaque.

Lending Library.—The clerk reported on the growing use of the lending library pointing out the benefit derived therefrom from members and associates who, qualifying for navigators licences, are able to borrow books on navigation, for a nominal charge.

Unqualified Instructors.—In pursuance of its policy of preventing persons from instructing in flying without suitable qualifications, it was resolved to enlist the support of the chief instructors of the principal schools of flying.

enthusiasm. It is satisfactory to know that their many private owners all use British aircraft, namely, Moths, Bluebirds, Avians, Desoutters and Puss Moths. The club has been flying for two years and up to November 30, 1930, have had a total of 2,379 hours 40 minutes flying time. This is divided in a rather interesting manner and shows that others than club members are aware of the advantages of flying, for of this total, 815 hours 50 minutes were on dual instruction, 244 hours 5 minutes solo instruction, while no less than 663 hours 25 minutes were on hire work. The remaining 656 hours 20 minutes is made up with passenger flying, miscellaneous, and tests.

The universal trade depression has lowered the prices of the products upon which New Zealand depends for its prosperity, and this has naturally had a detrimental effect on flying in general. F/O. Allen, himself a New Zealander, is the instructor of the Auckland club, and like many others after flying in the war, he retired to do some farming, but eventually came back to the air, which, in his case, he did about sixteen months ago. We rather gather that his bulk is as good an advertisement as the Moth could have, and that he tests the machine even more severely than the redoubtable Ronnie Malcolm of Stag Lane does. On Saturday, January 24, the club held their annual flying display and carried it through in ideal weather before a very large crowd. A most excellent programme was arranged and was heralded by a formation flight over the city in the morning, followed by a series of landing competitions. Competitions and races were divided into two groups, those for "A" licence pilots, and those for "B" licence pilots, which seems a very sensible arrangement, and it produced a large entry. The club also publishes a very attractive little journal called "Flypaper," which is well filled with very readable stuff, both serious and comic. As further evidence of their go-ahead spirit they publish a complete list of places to which people hiring club aircraft may fly, together with the distance, approximate time each way, and the fare, single and return, for one or two passengers. This, incidentally, works out at very little over 6d. per mile.

An Attractive Leaflet

HENLYS, who are sole concessionnaires for Avro Avians in the United Kingdom, have just issued an attractively got-up leaflet, which gives all the essential details of these machines. Both the standard and sports models are dealt with, while all dimensions, weights and performance are tabulated in both English and the metric systems. All parts of the aircraft are described in simple language, and illustrations supplement this description. The prices range from £650 for the wooden fuselage Mark IV, with Cirrus II engine, to £825 for the Sports Mark IV M Avian, with metal fuselage and Hermes II engine, or £875 with the Gipsy II engine. It is of interest to note that the wing span has now been increased to 30 ft., and this has put up the maximum permissible load from 1,600 lb. to 1,850 lb. without making any perceptible difference in the cruising or top speeds. Copies of the leaflet may be had from Henlys at Heston Air Park.

Air Transport

NIGHT AIR MAIIS*

By CAPTAIN CARL FLORMAN

(Managing Director of the A.B. Aerotransport, Stockholm.)

THE work for the development of air traffic in Europe into a generally recognised means of communication in conjunction with railways and steamships, has hitherto mainly been done through the conveyance of passengers and goods. Mail has certainly been carried by the aeroplanes, but as a rule only in small quantities. As managing director of the Aerotransport Company, our Swedish Air Line, I have seen this development with a certain amount of worry and distrust, and submitted therefore to the International Air Traffic Association, IATA, a suggestion for organising, at the earliest possible moment, a general European air mail net, mainly for night traffic. My suggestion was dealt with by a Committee appointed at the IATA's last session in Antwerp, and the suggestion was discussed also at the Postal Congress which was held at Brussels in October.

I realise that the question of establishing air mail conveyance between London and the various parts of the Empire is of great importance from a British point of view, but as this object has nothing to do with the aims for which I am working, I shall not touch upon it to-day. The air mail lines to the different parts of the Empire will have to be organised on quite different lines, and run in quite a different way from those which will have to be established in Europe, for which reason these two questions have nothing in common.

I shall begin by giving a brief synopsis of the present night air mail traffic in Europe and its organisation.

Germany

The Deutsche Luft Hansa began night air mail flying in a trial attempt during 1926, when the line Berlin-Danzig-Königsberg was operated for five months and a total number of 503 trips were made. These night air mail flights have since been continued, and have increased every year, and last year night flying was carried on over the following lines:—

1. Königsberg-Danzig-Berlin.
2. Berlin-Hannover-Cologne-London.
3. Stralsund-Stockholm.
4. Malmö-Hannover-Amsterdam.
5. Leipzig-Berlin.

Altogether the Deutsche Luft Hansa covered 764,838 km. last year (1930), representing 2,014 night trips, in the course of which 83,510 kg. of mail was carried. Regularity averaged 90.1 per cent.

During the present year approximately the same lines will be covered during the night, the season lasting from April 1 to October 1. The line between Berlin and Hannover will, however, also be operated all winter.

* Paper read before the Royal Aeronautical Society on March 12, 1931.

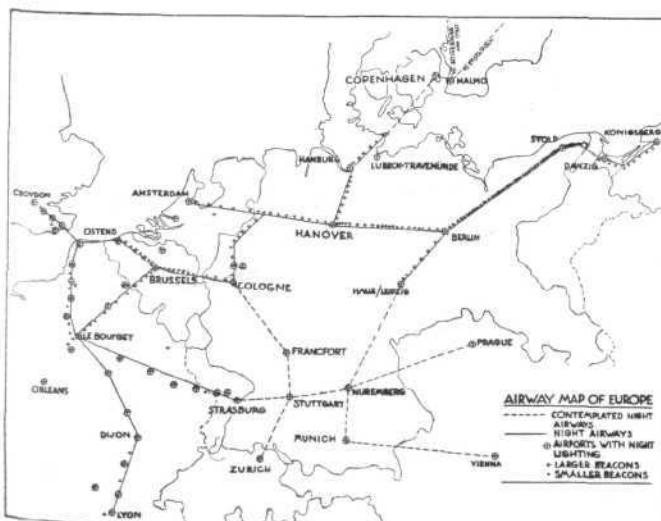


Fig. 1.

Belgium

The Belgian Airways Company, S.A.B.E.N.A., has since April 14, 1930, been operating the line between Brussels and London at night. This traffic is subsidised by the Belgian State, and is intended for the conveyance of the entire Belgian night mail to England, and practically all this mail is carried without any air fee. The departures are 11.30 p.m. from Brussels and 2.30 a.m. from London. The average weight of mail for each trip from Brussels is 176 lb., but that from London, on the other hand, is only 9 lb.

*Report of S.A.B.E.N.A.
Night Air Mail Line, Brussels-London
April 14, 1930-January 31, 1931*

Month	Trips planned	Trips completed	Trips not completed	Punctuality in per cent.
1930				
April ..		All trips completed.		100.00
May ..		"	"	100.00
June ..		"	"	100.00
July ..		"	"	100.00
August ..	41	39	2	95.12
September ..	44	37	7	84.09
October ..	44	38	6	86.36
November ..	38	26	12	68.42
December ..	40	13	27	32.50
1931				
January ..	42	22	20	52.38

As we see from this illustration, the regularity in summer time was perfect, i.e., 100 per cent., but poorer during winter. Nevertheless, the Belgian company is worthy of all honour for this remarkable pioneering work, and it is not to be wondered at, the first winter, before the company's pilots had yet had sufficient training in night flying, that the regularity has not been so great. One may, however, assume that the company's night air mail service will gradually grow better, and will soon, from a postal point of view, attain satisfactory regularity, though the line in question, on account of fogs, presents exceptional difficulties.

Scandinavia

During the year 1928 the Swedish Post Office, in co-operation with the Aerotransport Company, arranged for eight trial night mail flights between Stockholm and London. The aeroplane was fitted up as a mail van, and a postal official accompanied the same and sorted the mail on the way. This was done for the purpose of gaining experience, and to see if the sorting of mail could advantageously be done during the flight. The route followed was Stockholm-Malmö-Hamburg-Amsterdam-London. The trials carried out gave us encouragement to continue the work for establishing night air mail routes from the Scandinavian countries, and in order to bring about co-operation between the Northern countries in this matter, the Danish Post Office issued invitations for the first Night Air Mail Conference in Copenhagen, on February 7, 1929. It was then resolved to arrange jointly a one month's night air mail service on the lines Stockholm-Copenhagen-Amsterdam-London and Oslo-Gothenburg-Copenhagen-Berlin on six nights a week during the summer of 1929. The flights, which were made by the Scandinavian Airways Companies and the German Luft Hansa and the K.L.M. Company jointly, turned out well. In 1930 these trials were further extended, and were kept up for two months. There is an intention during the current year to establish a four months' night air mail service. The time-table for this year will be as follows:—

Time-Table (Central European Time)					
16.00	dep.	Helsingfors	..	arr.	12.45
18.45	arr.	Stockholm	..	dep.	10.00
20.00	dep.	Stockholm	..	arr.	9.00
24.00	arr.	Copenhagen	..	dep.	5.15

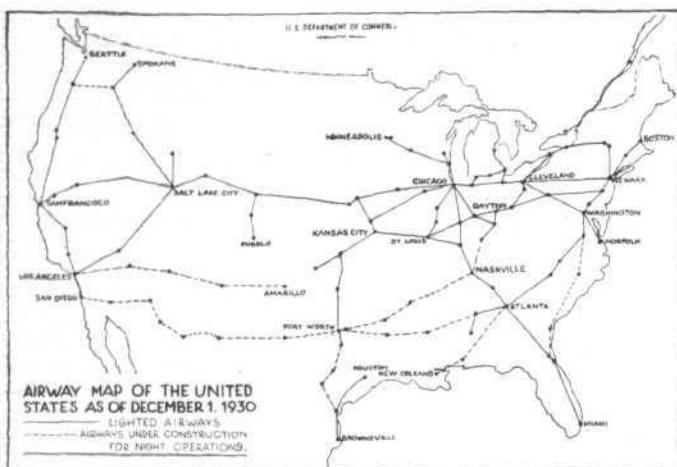


Fig. 2.

19.00	dep.	Oslo	..	..	arr.	9.20
21.20	dep.	Gothenburg	..	..	arr.	7.00
23.30	arr.	Copenhagen	..	..	dep.	4.45
1.00	dep.	Copenhagen	..	..	arr.	4.15
4.00	arr.	Hanover	..	..	dep.	1.30
4.30	dep.	Hanover	..	..	arr.	1.00
6.50	arr.	Amsterdam	..	..	dep.	22.40
8.40	dep.	Amsterdam	..	..	arr.	22.00
11.55	arr.	London	..	..	dep.	19.00
12.30	arr.	Paris	..	..	dep.	15.00
6.00	arr.	Berlin	..	..	dep.	22.00

The payment for the conveyance of mail has been made in such a manner that the Post Offices in the Scandinavian countries, Denmark, Finland, Norway and Sweden, together guaranteed payment according to the so-called Hague Convention for 1,200 lb. of mail for each trip as far as Amsterdam, where the night air mail planes handed over their mail for conveyance to its destination by the K.L.M.'s ordinary morning machines to London, Brussels and Paris.

I mentioned that the Scandinavian Post Offices contribute sums according to the Hague Convention, whereby the payment should be at the rate of 6 gold centimes per 100 grammes and 100 km. That the Post Offices were able to guarantee for such a large weight as 1,200 lb. per trip, is due to the fact that a start has been made to send *all* first-class mail, e.g., even such for which no air fee has been paid, by the night air mail service. The actual weight was thus almost what was guaranteed. There can, therefore, in this respect not be any suggestion of any mail subsidy, but merely of payment according to an internationally-fixed tariff for work done.

France

Last year the Compagnie Internationale de Navigation Aérienne (C.I.D.N.A.) maintained a night service from April 1 to December 1 on the routes Paris-Strassburg and Belgrade-Bukarest. The regularity between Paris and Strassburg was between 97 and 100 per cent. during the summer season and about 75 per cent. in the winter months. Between Belgrade and Bukarest the regularity was still

better. The Company's night flights were carried out entirely with three-engined machines. The *Air Union*, for shorter periods during 1926 and 1927, carried out trial night flights between Paris and London. When the beacon illumination along the route had been arranged more satisfactorily, the Company commenced a regular night service on April 9, 1929, and this was continued uninterruptedly until September 7, last year. During 1929 and 1930, 397 flights in all have been carried out—425 flights were intended—so that the regularity has thus been on an average no less than 93 per cent.

I shall now show (in Fig. 1) the present European night air routes equipped with beacons and emergency landing places. We see from it that there exists already a long route illuminated by beacons along the whole length, namely, London-Brussels-Cologne-Hanover-Berlin-Danzig-Koenigsberg, and another line from London *via* Paris-Dijon-Lyons to Marseilles. Furthermore, we have the lines Paris-Brussels, Paris-Strassburg, Amsterdam-Hanover, Hanover-Hamburg-Danish Frontier, as well as Berlin-Leipzig.

The line Strassburg-Nuremberg-Prague-Vienna is at present in course of establishment for the Companie Cidna; further, beaconing is planned from Frankfort to Cologne, from Munich to Halle-Leipzig and from the German frontier to Copenhagen and Stockholm, as well as from Copenhagen to Gothenburg and Oslo.

We are thus already able to discern in the completed night airways the main outlines of how the future night air mail routes in Europe will look.

After this account of its present state in Europe, I wish to pass on and say a few words about the night air mail service in the United States.

Night Air Mail Service, U.S.A.

As you are probably aware, the air mail service in America was at the beginning operated entirely by the Post Office. A departure from this system was made subsequently, and now the mail is carried by the various airways companies under contracts which have been entered into between the Postmaster-General and the respective companies. In order to supply an instructive illustration of the present American air mail service, the following figures may be quoted:

	1926	1927	1928	1929
Total mail carried, lb. ..	810,855	1,654,165	4,063,173	7,772,014
Mail carried by contract, lb. ..	371,206	1,270,299	4,063,173	7,772,014
Mail income to contractors, \$..	765,549	2,643,454	7,432,721	17,042,521
Miles of airways, December 31 ..	8,039	7,832	14,561	26,597
Average mail load in pounds per scheduled round trip ..	112	273	489	617
Average income per pound of contract mail ..	\$ 2.03	\$ 2.08	\$ 2.03	\$ 2.01
Average mail income per contract mile flown ..	\$ 0.39	\$ 0.625	\$ 0.94	—
Number of mail operators, December 31 ..	15	16	21	22
Airplane miles flown with mail ..	4,240,407	5,543,578	7,846,296	14,869,166
Miles lighted airways, December 31 ..	2,041	4,468	6,988	12,448
Electric and gas beacons, December 31 ..	612	760	1,188	1,311
Lighted intermediate fields, December 31 ..	92	134	210	285

Fig. 2 shows a chart of all the lighted American airways in December, 1930. In December, 1929, 12,448 miles were illuminated, and since then the figure has risen to over 14,700 miles.

I am unable for the moment to give any typical contract between the United States Post Office and the airways companies, because no standard contract is in use, each arrangement being drawn up in a separate form with suitable terms for the needs of the particular route. Nevertheless, it might be interesting to know one of the most recent. A contract awarded to the Pan-American Airways, Inc., of New York City, is an agreement for carrying mail by air from Dutch Guinea to Santos, in Brazil, a distance of approximately 3,275 miles each way. The concern is to receive \$2 a mile each way for carrying the mail over this route for a specified load not exceeding 800 lb., plus a rate of \$1 per lb. per 1,000 miles for any excess mail required to be carried. The service

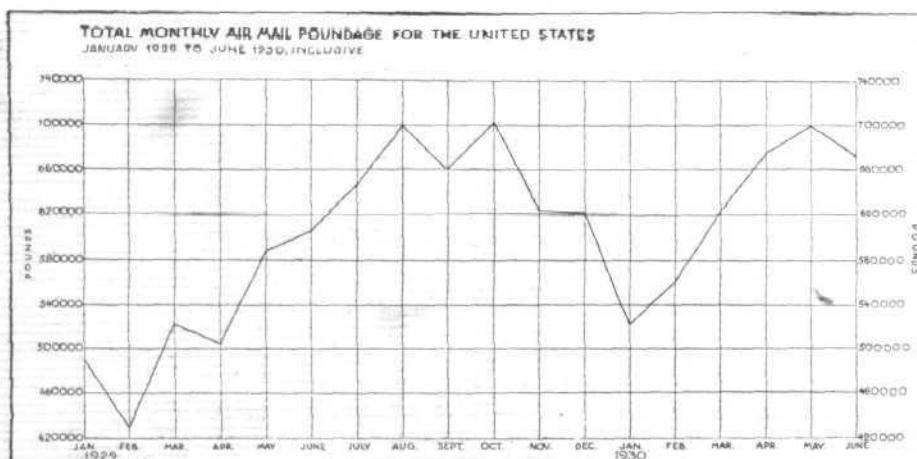


Fig. 3.

is to be a weekly one, and the contract will run from October 20, 1930, to January 8, 1939.

We see from Fig. 3 that the quantity of mail was much greater during the six summer months, which was chiefly due to poorer regularity in winter, but we also notice that the winter mail has largely increased in 1930 compared to 1929.

If we examine the average revenue which the American airways companies received last year per mile, at the rate of payment under the Hague Convention for European air mail service, we arrive at the following figures:—

U.S.A.

Average Revenue per Mile.

$\$0.85 = 4.4$ gold francs for an average weight of mail of 620 lb. per trip during 1930. This constitutes an average revenue of 0.7 gold centimes per lb. and mile.

Europe.

Revenue under Hague Convention.

Per kilogram and 1,000 km. = 6 gold francs, which is equivalent to approximately 0.5 gold centimes per lb. and mile.

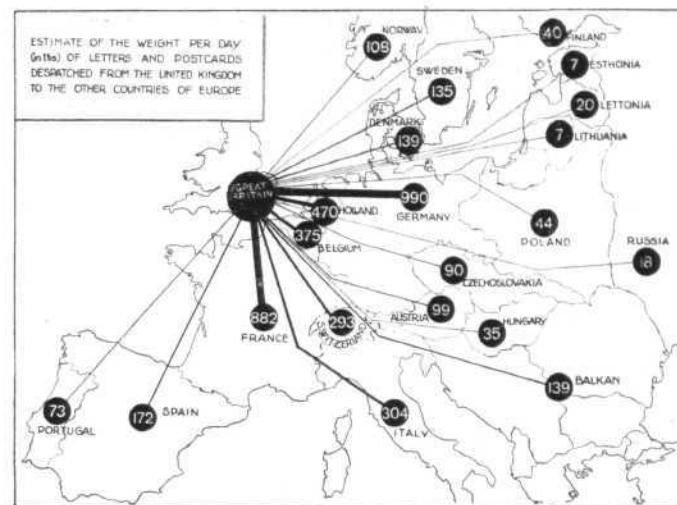


Fig. 5.

morning, and in Copenhagen, Berlin, Warsaw, Vienna, Rome, and Madrid on the Wednesday morning; whereas the same mail, if it were forwarded by night air mail from London, could be delivered at all these places by Tuesday morning. What this would mean to English commerce and industry if equally good postal communications were obtained by her with distant European countries such as we now have with our next-door neighbours, is perfectly obvious. England would in this way get just as good postal communications with, for example, the Scandinavian countries as Germany now has with them. A letter posted in Berlin on Monday evening reaches Stockholm by night air mail on Tuesday morning, enabling a reply to be received on Wednesday morning! A letter posted in London on Monday evening, and despatched by rail, is not delivered in Stockholm until Thursday morning, and the reply does not reach London until Saturday evening and is, as a rule, not delivered before Monday morning. The business man in Berlin thus gets his reply from Stockholm after 36 hours, whereas a business man in London requires a week to get an answer from Stockholm. This is the case if no night air mail service is established from London.

But even the British postal connections with the neighbouring countries of France and Belgium will gain considerably through night air mail service. Mail dispatched by train arrives in Paris at 10.30 a.m., and can, therefore, not be delivered until after lunch. In view of the lively and intimate business relations which exist between these large capitals, the improvement in the exchange of mail which will be gained by the night air mail services is of great value and importance.

By establishing a night air mail service as well on the line

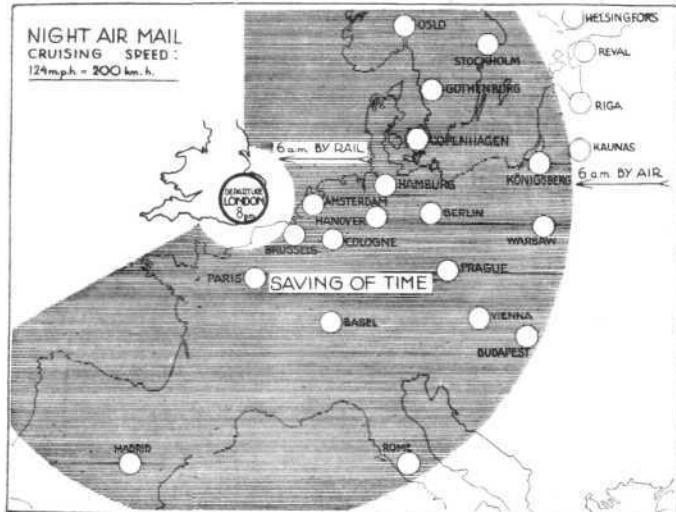


Fig. 4.

It is thus proved that the payment received by the European airways companies is lower than that received in the United States, although the airways companies there possess the advantage of getting much bigger quantities of mail.

Future Night Air Mail Service in Europe

After this account of the present situation in Europe and the United States with regard to air mail service, I shall pass on to a scrutiny of the problem regarding the near future, and its prospects of development for night air mail service in Europe.

In order to explain the question from a British point of view, I shall show a map (Fig. 4), from which it will be clear what distances mail planes from London are theoretically able to reach in the course of the night with an estimated speed of 124 m.p.h. (200 km. per hour). I have called the map theoretical because any possible landings at intermediate stations have not been taken into account.

In Fig. 5 I have graphically marked with different thick lines and figures in pounds the quantities per day of all outgoing first-class mail (letters and postcards) from England to various countries in Europe. From these figures it will be seen that the weight of first-class mail from England is no greater than the whole amount which might be conveyed by aeroplanes, although all first-class mail has here been included, e.g., even such for which a separate air fee has not been paid. The figures are calculated on the basis of international postal statistics.

It will also be seen from the map that the quantities of mail to certain countries are so trifling that a separate air mail line to such a country cannot be thought of, as it would not pay.

It is not impossible to convey this mail in the course of a night from England to practically the whole of Europe.

In order to demonstrate clearly and in detail the saving of time by conveying the mail by air during the night from London, I have, however, drawn up a separate map (Fig. 6). We see that mail conveyed by a train leaving London, let us say, on a Monday night is not delivered in Helsingfors until the Friday morning, in Stockholm and Oslo on Thursday

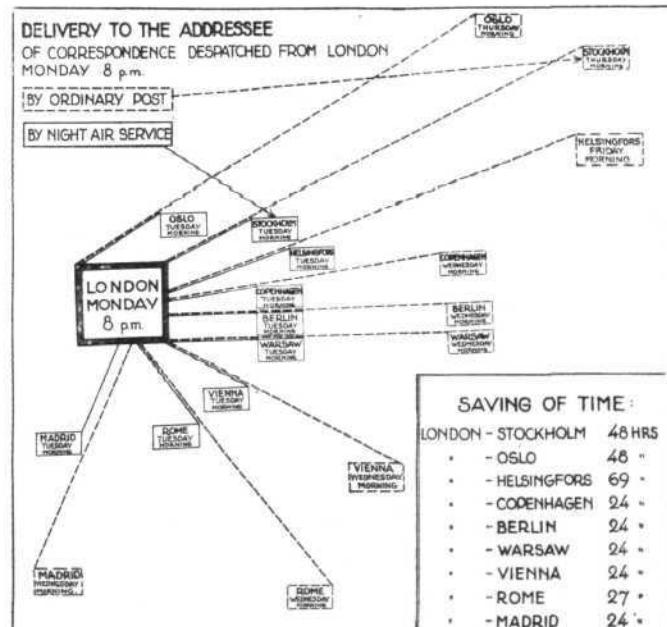


Fig. 6.

Paris-Marseilles improved postal connections are, furthermore, obtained between London and the Riviera, as well as between London and the long-distance mail boats to and from Marseilles.

The night air mail service is of great importance for the exchange of mail between London and Belgium.

I consider that the question relating to the establishment of a regular night air mail service in Europe throughout the year is of the utmost importance for attaining better intercourse, both cultural and commercial, between the European countries. Hitherto this intercourse has been satisfactory between adjoining or neighbouring countries, but, on the other hand, the intercourse between more distant countries has been far from animated.

The British Post Office will, therefore, reap the greatest benefit by assisting the correspondents in attaining such improved communications as the establishment of a night air mail to the Continent would carry in its train.

Even for the air lines companies the organisation and establishment of such air mail service may become of the utmost importance, since the conveyance of mail is from an economic point of view the most paying part of the business. Besides, the air line companies will get an opportunity through night air mail service to demonstrate to the nations what an actual valuable asset a well-organised air mail service really is.

In order to make the night air mail service pay as far as possible, and in order to gain the utmost possible benefit, it will, however, be necessary for the work to be arranged on international lines, and to bring about this by intimate co-operation, not only between the air line companies and the Post Offices, but also mutually between the same.

It will be a case of trying to establish and enlarge a night air mail net which, with the smallest number of flight-miles, gives the best economic and practical results.

How, then, will a European air mail net have to be established in order to produce the biggest saving of time with the least possible economic sacrifice?

Such a European night air mail net must, in the first instance, secure and safeguard the intercourse between the three largest and, from a commercial point of view, most important cities, viz., London, Paris, and Berlin. To this triangle will then have to be connected up other important cities and towns by intermediate landings, or by joining them up with air lines. Furthermore, in organising a night air mail service, use should first and foremost be made of already established and completely lighted air lines, as I demonstrated in a previous illustration.

I now take the liberty to submit a map (Fig. 7), on which I have set out the night air mail service as I imagined it should be organised in its first stage of development.

The thick black lines indicate the main routes, which are bound to find a place in the scheme and are also already being operated—at any rate, during a certain part of the year. The line Berlin-London passes through Cologne, not only for the purpose of being able simultaneously to carry

the mail to Paris, but also to exchange the mail with Western Germany.

The line runs in an arc along to the Dutch frontier so as to avoid the troublesome Teutoburger Forest between Hanover and Cologne.

The other lines drawn in black show junctural night air mail routes, which I consider should be established in the first instance; these are:—

Marseilles-Paris.
Basle-Frankfort-Cologne.
Warsaw-Berlin.
Koenigsberg-Berlin.
Stockholm-Copenhagen-Hanover.
Oslo-Gothenburg-Copenhagen.

Ultimately, the lines drawn with dashes show some of the junctural day routes. These will, as a matter of course, become more numerous in future, but I have only included the most important ones, e.g.:—

Madrid-Barcelona.
Barcelona-Marseilles.
Naples-Rome-Genoa-Marseilles.
Moscow-Koenigsberg.
Riga-Koenigsberg.
Leningrad-Helsingfors-Stockholm.

A good many of these lines will undoubtedly, in the future, be operated at night. If we study this map somewhat more closely, we shall see that the traffic from northern and eastern Europe has been run together into a main artery via Hanover and Cologne to London and Paris, whereas the traffic from southern Europe and the most important ports on the Mediterranean would be run via Paris. Finally, the mail from Central Europe, e.g., from South Germany, Switzerland, Czechoslovakia, Austria, and several other countries, will reach London either via Nuremberg-Strassburg or via Cologne. The mail from Belgium would, as hitherto, be conveyed by the night air mail route from Brussels to London and from Brussels to Cologne for transit to and via Berlin, while the Dutch mail would possibly connect up with separate night air mail planes from Amsterdam to London and Amsterdam to Hanover.

The night air mail net I have suggested will, as can be seen, utilise all lighted airways which exist already in Europe.

How may we then assume that the night air mail service suggested here would be distributed between the airways companies of the various countries, and how might the economical question be settled and secured?

The principle adopted should be that the night air mail flights should, if possible, be carried out in co-operation between the airways companies in those countries which are directly concerned. Furthermore, I have, in the suggestion for the distribution of the traffic which I am now submitting in regard to Great Britain, only assumed a comparatively slight active participation, in view of the fact that England has her greatest interest centred upon the development of air traffic with the different parts of the Empire. It will nevertheless, be necessary also for England, even if on a smaller scale, to participate in the European night air mail service, and to take over at least a part of the prospective night air mail service to the Continent. In my suggestion or scheme, Germany has been allotted a larger share of the traffic, since, as we are aware, the latter country is touched by several lines, and the German Post Office furthermore has already displayed keen interest in the development of night air mail conveyance in Europe. To this might be added the circumstance that Germany, in virtue of her position in the centre of Europe, will be directly touched by several transit lines.

I would suggest that the traffic be arranged in the following way:—

The air line Berlin-Hanover-Cologne-Brussels-London is operated with two trips in each direction every night. Of course, there are no technical difficulties to prevent all the mail being carried with only one trip, but this is hardly feasible on account of the different demands made upon the time-tables, which will be put forward by each country. For as a *sine qua non* for a good night air mail time-table in Europe we must set up the following claims:—Departure at the earliest at 8 p.m. and arrival, if possible, for the first mail delivery next morning. If we therefore see how the line Berlin-Cologne-London should be operated, we shall find that with a cruising speed of 124 miles an hour, the departure from one terminus can be put at 10 p.m., and delivery yet be made with the first round at the other terminus. If, however, a night mail aeroplane with mail from the Scandinavian countries is to connect with this Berlin machine to London on its landing at Hanover, the

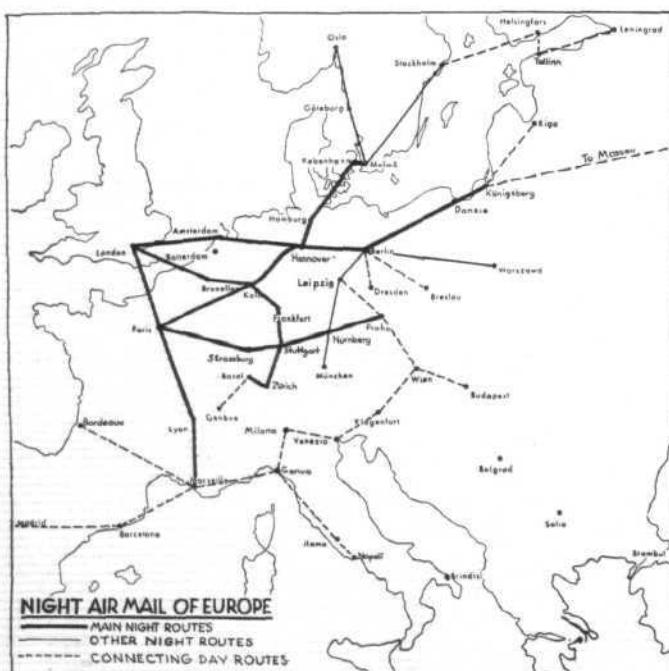


Fig. 7.

parture from the Scandinavian capitals must be made earlier too early in the afternoon, if the night air mail service were to be of any importance or benefit for business mail. The air mail plane would thus, at all events with the speeds which can now be attained, have to be dispatched as early as 5 p.m. from Stockholm, and this would be unsuitable. It will, therefore, be necessary, with a view to securing the connections from northern and eastern Europe to London, to duplicate the night air mail service between Berlin and London. The first machine with departure from Berlin at 10 p.m. might carry the mail from Berlin, pick up mail in western Germany and Belgium, and arrive in London at about 5 a.m. for distribution with the first delivery at 7.30 a.m. The second machine, on the other hand, would leave Berlin at midnight, carrying mail that has arrived from the Baltic States, Poland, Eastern Germany, and Czechoslovakia, and pick up at Hanover the mail from Scandinavia. The latter machine should arrive at Croydon by about 7 a.m. and the mail be delivered at 9.30 a.m. The mail delivered in London at 9.30 a.m. has left Stockholm on the previous night at about 8 p.m., and Copenhagen at midnight.

The first trip, which would mainly look after the interests of the German and Belgian Post Offices, should, it seems, have to be run by Luft Hansa and the SABENA jointly.

The second trip, on the other hand, will assume a more generally international character, and will look after the long-distance traffic from Northern and Eastern Europe, and vice versa. I consider that this trip should be maintained in such a way that the German Luft Hansa takes over the line Berlin-Hanover-Cologne, and the line Cologne-London is operated by Imperial Airways.

The connecting night air mail lines from north and east to Berlin and Hanover would, on the other hand, be operated by the airways companies of the respective countries. The Scandinavian Post Offices would thus, through the Scandinavian airways companies, operate the lines from the north, i.e., from Helsingfors, Stockholm, Oslo, Gothenburg, and Copenhagen down to Hanover, where they would deliver and fetch the Scandinavian mail.

The branch line from Riga to Berlin should be operated by Derluft, the line from Warsaw to Berlin by the Polish Company, &c. The line Cologne-Paris will, as a matter of course, become a Franco-German matter, while the night air mail line London-Paris-Marseilles might altogether be taken over by the French. Holland's connection from Amsterdam to London and Amsterdam to Hanover would entirely devolve upon the KLM.

(To be continued.)

THE 32ND INTERNATIONAL AERONAUTICAL CONFERENCE

THE Thirty-Second International Aeronautical Conference met in London on March 3-5, and several important resolutions were considered, extracts from which we are able to publish below. Seven nations were represented, viz.:—Great Britain, Czechoslovakia, Belgium, France, Germany, Holland, and Switzerland. Lieut.-Colonel F. C. Shelmerdine, Director of Civil Aviation, presided over the plenary sessions and over the Operational Commission.

The extracts from the resolutions are as follows:—

Operational Commission

Lighting.—The Operational Commission proposes to invite experts in lighting to the 33rd Conference for the purpose of discussions on:—(i) Lighting of aircraft. (ii) Night lighting of air routes. (iii) Lighting of aerodromes.

Measures to be taken when a seaplane is forced to alight close to a ship, and in the towing of seaplanes, and signals to be exchanged between ships and seaplanes.—The delegates are asked to study the question of the signals to be exchanged between a vessel taking a seaplane in tow and the towed seaplane, and to forward the results to the Secretary for Great Britain, who shall submit the same to the International London Conference for the Revision of the International Signals code.

Improvements in the arrangements for reporting and search in connection with aircraft flying the Channel.—The additional reporting station at Gris-Nez, which France has offered to supply, is not considered necessary.

The improvements asked for on the English side of the Channel (namely, duplication of the Lympne W/T station, or creation of a station on the Varne lightship) cannot be agreed to owing to the question of cost.

The Commission holds that it is impossible to make it obligatory for pilots of aircraft not provided with W/T or of aircraft whose W/T sets have failed to report at the coastal stations.

Air Lights on Belgian airways.—The sections in Belgian territory of the Brussels-London, Brussels-Cologne, and Brussels-Paris air routes are now provided with lights. The lighting system on the Brussels and the Netherlands air route will be ready at the beginning of the flying season, and the Dutch authorities report that the lighting between Amsterdam and the Belgian frontier and to Flushing will be finished sometime during the summer.

The Belgian delegation asked that the question of improving the night lighting system on the English airways might be considered.

(a) The Commission is of opinion that the search for aircraft in distress at sea would frequently be facilitated if captains of ships were compulsorily required to note down in the ship's log, any aircraft seen in flight over the sea, together with the time at which the aircraft was sighted, and, if possible, the registration mark or any other detail likely to be of use in identifying the aircraft.

Capt. Florman's Lecture and the P.M.G.

The following is an extract from a letter received by the Royal Aeronautical Society, from the Post Office re the lecture by Capt. Carl Florman, delivered on March 12:—

"The Postmaster-General observes that in the third paragraph of your letter it is stated that according to Capt. Florman, the four Scandinavian countries, Germany, Belgium and Switzerland, 'discovered to their astonishment that the improvement of the air-mail service to England was not looked upon with favour by the English Post Office, which, in a memorandum addressed to other Post Office authorities, even requested that this gratuitous and rapid conveyance of mail to England should stop.'

"I am to inform you that this statement is inaccurate. It is true that the British Post Office, like the Post Offices of the other principal European countries, is of opinion that the time has not yet arrived when ordinary mail can be sent regularly by air, and that it has explained this point of view to other countries. On no occasion, however, has this country refused to accept ordinary mail despatched to

The delegations were asked to approach the State and Merchant Navy Authorities of their countries with a view to obtaining the inclusion of a principle on these lines in the regulations governing shipping.

(b) In view of the advantage that would be gained if aircraft were painted in colours, making them clearly visible when they have alighted out at sea (the best colour would appear to be orange) the Commission decided to draw the attention of air traffic companies to the advisability of a suitable colour scheme, at any rate as regards the upper surfaces, for their aircraft.

(c) The Commission is of the opinion that advantage would be gained, in particular in cases of failure of the W/T set, by a system of short distance signals for use between aircraft and ships, by means of which, for instance, an aircraft flying over a ship might ask the ship to report its position by W/T.

A similar scheme for inter-aircraft communications might also be devised.

The International Conference for the International Signal Code is to be notified that this question is being considered by the I.A.C.

Execution of complete circles by an aircraft in flight above a ship.—The Commission recommends that all countries should adopt provisionally the arrangements already advised by the Air Ministry for attracting the attention of ships to an aircraft which is in distress but unable to alight or to establish contact by W/T. For this purpose aircraft must execute complete circles above the ship and fire flares, the firing of flares indicating that an urgent message is to follow. Aircraft provided with a visual signalling system will then give the message, other aircraft will then fly in the direction of the aircraft in distress.

In view of the above arrangements civil aircraft should avoid executing complete circles above ships unless they have an urgent message to transmit.

It would be advisable to make the arrangements described above known to ships.

Meteorological Commission

Meteorological Picture Transmissions by W/T.—The Commission considers that the W/T transmission of meteorological information by means of pictures is necessary for the following purposes:—

- (a) Transmission of weather maps for the use of pilots at aerodromes where the meteorological facilities do not allow of an adequate provision of weather maps;
- (b) transmission of results of the analysis of the general situation to regional forecasting stations;
- (c) illustration of technical messages containing inferences, etc.;
- (d) transmission of information to pilots in clear.

Wireless Commission

The Conference agrees that the rates for private telegrams in the aeronautical radio service should be arranged as in the maritime radio service.

The W/T Commission reported to the Conference that they preferred the old code (Bulox) for reservation of seats to the new I.A.T.A. code as messages in the latter were longer, more difficult to take down correctly and decode, the latter difficulty making checking illusory.

it by other countries by air, or asked that the despatch of such mail by air should cease. Such despatches were actually made by a number of night services during 1930 and no difficulty was raised about their acceptance.

"At an Air Mail Conference, held in Brussels, in October last, which was summoned at the instance of this Department, and at which all the countries referred to were represented, this point of view was made perfectly clear and a resolution confirming it as generally acceptable was unanimously adopted."

Dinner to Capt. Florman

FOLLOWING the lecture given by Captain Carl Florman on "Night Air Mails" on Thursday, March 12, before the Royal Aeronautical Society, the President (Mr. C. R. Fairey) gave a dinner in honour of the lecturer. Among those present were:—Lt.-Col. F. C. Shelmerdine, O.B.E., A.F.R.Ae.S. (Director of Civil Aviation), Col. The Master of Sempill, A.F.C., F.R.Ae.S., Immediate Past-President of the Society; Baron Legatinerie, Aeropostale Air Transport; Captain E. Oberg, Swedish Naval Attaché, &c.

Gliding

THE SAILPLANE Club and the Model Aeroplane Club held their first dance on March 7, and the result was a great success both socially and financially. The result is, therefore, that a balance is available for the development funds of both clubs and the organisation of a similar event to take place later in the season is being considered. There are still many vacancies for the Sailplane section, and applications for membership at £3 3s. per annum should be made to the hon. sec., E. G. Smettem, 2, Wine Office Court, Fleet Street, E.C. 4.

THE BRITISH GLIDING ASSOCIATION announce the receipt of a substantial donation from the De Havilland Aircraft Works to their funds. This is particularly gratifying and shows that aircraft manufacturers are putting their belief in the future usefulness of gliding.

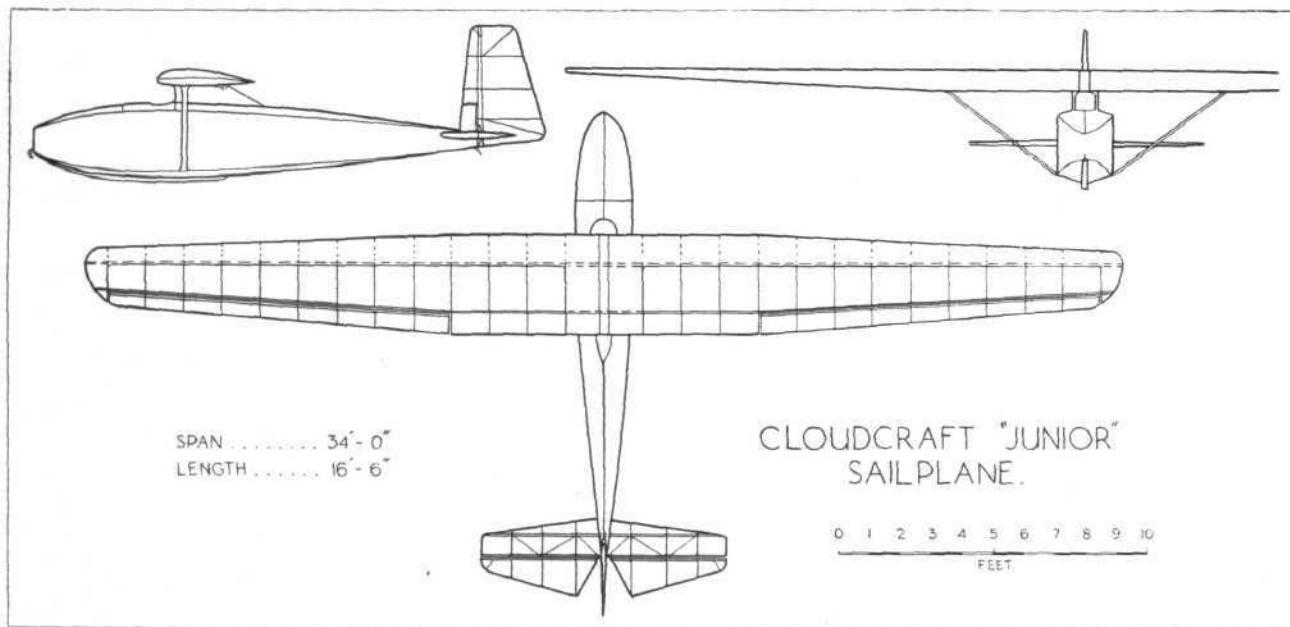
THE AIRCRAFT CLUB, Harrogate, has trained four members to fly well since November, and several others are approaching their "A" licence stage. A lot of flying was done at the head of the Nidd Valley, on Sunday, March 15, and a considerable amount of constructional work was put in. Those who are interested in gaining construc-

tional experience, should turn up at the club on Fridays, when work is in progress. A notice is posted up in the club room on those nights announcing where the club will meet on the following Saturday or Sunday.

THE ISLE OF WIGHT GLIDING CLUB members have confined their activities during the last few months chiefly to construction and repair work. The machine they are using is a B.A.C. II and they have now completed a trailer from drawings supplied by the B.A.C. Company. Gliding was resumed on Sunday, March 15, at Bowcombe Down, and a large number of members made successful flights without any crashes. A new two-seater, dual control, all-metal, glider, designed by Mr. J. A. Thompson, is now being constructed which it is hoped will, when flown as a single seater, be capable of soaring flight.

SOUTHAMPTON GLIDING CLUB.—The club resumed instruction on Sunday, taking full advantage of the glorious weather. A constructional section has been formed and work will soon be started on a secondary glider.

A new site will be inspected in the near future in view of flying the new machine, and also to gain a number of "A's."



The Cloudcraft "Junior" sailplane has been designed by Mr. Roger Dickson, who was responsible for the Dickson training glider, drawings of which are published by "Flight." The "Junior" is at present being built in the works of the Cloudcraft Glider Company, at Southampton.

"GLIDING"—AN EXCEPTIONAL BOOK

"GLIDING" is undoubtedly the most useful book which has been published on the subject since the beginning of the recent resumption of gliding in this country. In a sense, it is not a handbook, since it is published by the Dorset Gliding Club as a year book. No one, be he a club member, or one who is merely interested in gliding, can possibly afford to be without this little volume. The mass and wealth of material which has been crammed into such a small space is almost unbelievable, and I have no hesitation in saying that it fills a want so often expressed by gliding people generally.

It was naturally expected that its scope and interest would be exceptionally large, since it is a compilation of articles by experts in gliding from all over the world. It is not possible to go into each of these sections thoroughly in a short review like this, but I assure readers that they will find authoritative information on every phase of gliding and matters of allied interest. There are specialised articles like that by Capt. G. T. R. Hill, on the question of Tailless Gliders. There are general theoretical articles on the safety of gliding, and theory of flight by Capt. C. H. Latimer Needham and Mr. H. J. Penrose, respectively, and there is an exceptionally valuable section by Mr. V. S. Gaunt, giving

just that information which the average gliding club individual lacks, on airworthiness, and how to ensure it.

There are also very useful sections devoted to the explanation of the British Gliding Association. At the end of the book is an extremely valuable register of gliding clubs complete with a table giving the full statistics of a large number of them, a glossary of terms which the embryo glider will find very useful and, finally, a section devoted to gliding and soaring records. In a foreword, Col. The Master of Sempill says that he is a firm believer in the future of motorless flight, and he advises all those who wish to become pilots, to start their training on a glider, as they will then, more readily obtain a true air sense and possess an advantage over those who learn to fly on power-driven machines. Aeroplane pilots, he goes on, should take the first opportunity which, they will never regret, of becoming proficient sailplane pilots, and, in conclusion, he assures his readers that the book will be of value to members of clubs and all others interested; sentiments which I most heartily endorse.

"DAEDALUS."

"Gliding, 1931." A yearbook published by the Dorset Gliding Club. 2s. 6d. (2s. 9d. post free from FLIGHT Offices.)

THE ROYAL AIR FORCE

London Gazette, March 10, 1931.

General Duties Branch

Lieut. A. A. Murray, R.N., is reattached to R.A.F. as Flying Officer with effect from Feb. 23, and with seniority (Jan. 12, 1925); Sqdn.-Ldr. T. F. W. Thompson, D.F.C., ceases to be seconded for duty with Royal Australian Air Force (March 9).

The following are promoted, with effect from March 11:—Flight Lieutenants to be Squadron Leaders.—C. R. Davidson, M.C., H. D. O'Neill, A.F.C., A. O. Lewis-Roberts, D.F.C., G. S. N. Johnston, R. J. Divers, M.B.E. Flying Officers to be Flight Lieutenants.—G. H. Walker, I. G. E. Dale, J. B. M. Wallis, W. F. Lovering, H. L. Patch, E. G. H. Russell-Stracey, H. D. Spreckley, W. H. Merton, A. P. Bett, E. B. Steedman, E. G. C. Stokes, J. A. P. Harrison, A. V. Hammond, C. S. Cadell, D. J. Harrison, J. D'A. Kearny, E. L. S. Ward.

The following Pilot Officers are promoted to rank of Flying Officer:—G. D. Emms, with seniority of March 8, 1930 (Sept. 8, 1930); F. C. Allen, W. E. Grant (Dec. 28, 1930); W. B. J. Sharp (Feb. 15); C. R. F. Wintringham (Feb. 21).

Group Captain T. G. Hetherington, C.B.E., is restored to full pay from half pay (Feb. 23) (substituted for *Gazette* Feb. 17); Flying Officer T. C. Dickens is placed on half-pay list, Scale B (March 9); Flying Officer J.

Parsons is placed on retired list (March 6); Flt.-Lieut. R. E. M. B. Milne is dismissed the Service by sentence of General Court Martial (Feb. 27).

Stores Branch

Flt.-Lieut. G. A. Curtis is placed on retired list (March 6).

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

The following are granted commis. in Class A.A.ii as Pilot Officers on probation (March 24, 1930):—J. L. H. Fletcher, J. W. Radbone (substituted for *Gazette* April 8, 1930). The following Pilot Officers of Special Reserve are promoted to rank of Flying Officer (Jan. 1):—V. O. G. Bell, W. A. W. Fitzsimons.

Flying Officer R. J. Stone resigns his commis. (Feb. 10). The following relinquish their commis. on completion of service:—Flying Officer C. W. A. Scott (Dec. 9, 1930); Flt.-Lieut. A. G. Taylor, A.F.C. (Feb. 23). Flt.-Lieut. O. J. F. Jones-Lloyd relinquishes his commis. on completion of service, and is permitted to retain his rank (Nov. 5, 1930).

AUXILIARY AIR FORCE

General Duties Branch

No. 600 (CITY OF LONDON) (BOMBER) SQUADRON.—Pilot Officer D. L. Doyle is promoted to rank of Flying Officer (May 19, 1930).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Group Captain: A. Corbett-Wilson, to Station H.Q., Boscombe Down, pending taking over command, 18.2.31.

Wing Commander: J. C. Quinell, D.F.C., to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 17.2.31.

Squadron Leaders: W. E. Reason, to R.A.F. Base, Singapore, 31.1.31; C. E. H. C. Macpherson, to Armament & Gunnery School, Eastchurch, 19.2.31; R. L. Stevenson, M.B.E., to Air Ministry (D.O.I.), 2.3.31; C. T. Anderson, D.F.C., to No. 22 Group H.Q., S. Farnborough, 2.3.31.



Royal Air Force Staff College

The following officers have satisfactorily completed the eighth course (1930) at the Royal Air Force Staff College, and are entitled to the letters "p.s.a." after their names in the Air Force List of their respective services:—

Royal Air Force.

Wing Commander G. R. M. Reid, D.S.O., M.C.; Squadron Leaders H. H. MacL. Fraser, G. G. Dawson, R. S. Sorley, D.S.O., D.F.C., O. R. Gayford, D.F.C., F. G. M. Williams (Stores Branch); Flight Lieutenants C. R. Davidson, M.C., H. D. O'Neill, A.F.C., E. I. Bussell, G. M. Bryer, O.B.E., A.F.C., A. B. Ellwood, D.S.C., S. D. Culley, D.S.O., A. P. Davidson, G. M. Knocker, C. A. Bouchier, D.F.C., E. S. Burns, T. G. Bowler (Stores Branch).

Dominion Air Forces.

Royal Australian Air Force.—Flight Lieutenants F. M. Bladin, D. E. L. Wilson.

Royal Canadian Air Force.—Squadron Leader C. M. McEwen, M.C., D.F.C., Flight Lieutenant G. R. Howsam, M.C.

2. The following officers of the Royal Navy, the Royal Marines, and the Army, have satisfactorily completed the eighth course (1930) at the Royal Air Force Staff College:—

Royal Navy.

Commander R. H. V. Buxton, Lieutenant-Commander W. D. Stephens.

Royal Marines.

Captain G. E. Wildman-Lushington.

Army.

Major W. T. Bird (Indian Army), Bt. Major A. E. Stokes-Roberts, O.B.E., M.C. (Worc. Regt.).

Central Flying School Categories

The undermentioned officers who attended the Flying Instructors' Course at the Central Flying School from September 30, 1930, to December 15, 1930, have been categorised as follows:—

A.2.

Flying Officers D. S. McDougall, J. Beaumont; Pilot Officer C. A. Watt.

B.

Flight Lieutenants N. C. Saward, A. J. Holmes; Flying Officers J. B. M. Wallis, A. F. P. Anning, Rupert S. Derbyshire, C. E. Kay, H. L. Piper, W. J. H. Lindley, L. P. Rowley, H. Kerr, G. H. Clarke, N. W. A. Cullum, E. S. Greenwood, G. O. St. J. Morris, A. G. Adams; Pilot Officer F. C. Cole, J. A. Powell, G. F. Humphries, E. R. Simonds.

C.

Flying Officers P. Le M. C. Deacon, W. G. Stevenson; Pilot Officer S. S. Murray.

R. M. Groves Air Navigation Prize

The undermentioned officer has been selected by the Air Council as having reached the highest standard among the R.A.F. officers who passed the Air Pilotage Course at Calshot during 1930, and is awarded the R. M. Groves Air Navigation Prize of £30, together with a set of volumes:—Flying Officer H. E. Dicken.



Aircraft Carriers and the Naval Agreement

In the White Paper issued on March 11, on the results of the negotiations with France and Italy for the reduction and limitation of naval armaments, it is set forth that before December 31, 1936, France and Italy may complete respectively 34,000 tons of aircraft carriers.

In answer to a question in the House of Commons the same

Parsons is placed on retired list (March 6); Flt.-Lieut. R. E. M. B. Milne is dismissed the Service by sentence of General Court Martial (Feb. 27).

Flt.-Lieut. G. A. Curtis is placed on retired list (March 6).

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

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Flying Officer R. J. Stone resigns his commis. (Feb. 10). The following relinquish their commis. on completion of service:—Flying Officer C. W. A. Scott (Dec. 9, 1930); Flt.-Lieut. A. G. Taylor, A.F.C. (Feb. 23). Flt.-Lieut. O. J. F. Jones-Lloyd relinquishes his commis. on completion of service, and is permitted to retain his rank (Nov. 5, 1930).

AUXILIARY AIR FORCE

General Duties Branch

No. 600 (CITY OF LONDON) (BOMBER) SQUADRON.—Pilot Officer D. L. Doyle is promoted to rank of Flying Officer (May 19, 1930).

ROYAL AIR FORCE INTELLIGENCE

Stores Branch

Squadron Leaders: W. A. Kingston, to Station H.Q., Manston, 15.2.31; H. S. F. T. Jerrard, to R.A.F. Depot, Uxbridge, 2.3.31.

Flying Officers: S. W. Thomas, to Home Aircraft Depot, Henlow, on appointment to a permanent commis., 27.1.31; P. H. Burt, to R.A.F. Depot, Uxbridge, 9.3.31; A. W. Rule, to R.A.F. Depot, Uxbridge, 2.3.31.

Accountant Branch

Wing Commander: H. F. Fuller, to Station H.Q., Hainaidi, Iraq, 22.1.31.

Legal Branch

Flight-Lieutenant: W. I. Grantham, to Special Duty List, on appointment to a permanent commis., 16.2.31.



R.A.F. SPORT

Services' Boxing Championships

The Imperial Services Boxing Tournament was held at Henlow Camp on Thursday, March 12, and was won by the Army. The results were:—

Other Ranks

FLY-WEIGHT.—Sergeant Haslam (Army) (holder) beat Off. Steward Saxton (Royal Navy) on points.

BANTAM-WEIGHT.—Corporal Bennett (Army) beat A.-C. Graham (Royal Air Force) on points.

FEATHER-WEIGHT.—Corporal Jones (Army) (holder) beat Sergeant Davison (Royal Air Force) on points.

LIGHT-WEIGHT.—Leading Seaman Jenkins (Royal Navy) walked over; Private Boyle (Army) withdrew owing to an injured eye.

WELTER-WEIGHT.—Lance-Sergeant Peters (Army) beat Sergeant Harper (Royal Air Force) on points.

MIDDLE-WEIGHT.—Private Brennan (Army) beat A.-C. Clapp (Royal Air Force) on points.

LIGHT-HEAVY-WEIGHT.—Leading Seaman Scudder (Royal Navy) (holder) beat A.-C. Munkley (Royal Air Force), the referee intervening in the third round.

HEAVY-WEIGHT.—Fusilier Bryman (Army) knocked out L.-A.-C. Jones (Royal Air Force) in the second round.

Officers' Finals

FEATHER-WEIGHT.—Lieutenant D. E. Taunton (Army) (holder) beat Pilot Officer C. E. Littler (Royal Air Force) on points.

LIGHT-WEIGHT.—Lieutenant H. C. D. Huxham (Army) beat Pilot Officer R. M. Noblston (Royal Air Force) (holder) on points.

WELTER-WEIGHT.—Lieutenant R. H. Bradshaw (Royal Navy) beat Lieutenant G. R. Chetwynd-Stapylton (Army) on points.

MIDDLE-WEIGHT.—Pilot Officer T. M. Coslett (Royal Air Force) beat Captain E. A. D. Shepard (Royal Navy) on points.

LIGHT-HEAVY-WEIGHT.—Flying Officer D. L. MacLean (Royal Air Force) beat Mr. T. H. Hook (Royal Navy) on points.

HEAVY-WEIGHT.—Lieutenant E. H. G. Gregson (Royal Navy) (holder) beat Lieutenant C. H. V. Pritchard (Army), the referee stopping the bout in the third round.

BOYS' TROPHY.—Army, 6 points, 1; Royal Navy, 2 points, 2; Royal Air Force, 0 points, 3.

OTHER RANKS' TROPHY.—Army, 6 points, 1; Royal Navy, 2 points, 2; Royal Air Force, 0 points, 3.

OFFICERS' TROPHY.—Army, Royal Navy, and Royal Air Force, equal first, each with 2 points.

BANTAM-WEIGHT.—FINAL.—Ross beat Edwards on the referee's casting vote.

LIGHT-WEIGHT.—FINAL.—McCleave beat Stone on points.

MIDDLE-WEIGHT.—FINAL.—Shawyer beat Whitbread on points.

HEAVY-WEIGHT.—FINAL.—O'Grady beat Usher on points.



day, Mr. Alexander, First Lord of the Admiralty, stated that, assuming that all the signatory Powers build up to the full tonnage permitted, the strength of each in carrier tonnage in 1936 will be as follows:—British Empire, 135,000; U.S.A., 135,000; Japan, 81,000; France, 56,146; Italy, 34,000. The First Lord also stated that the United States placed a contract for a carrier on October 16, 1930.

IN PARLIAMENT

South America Air Mail

Mr. ALLEN asked the Postmaster-General whether he is aware that all Great Britain's chief Continental competitors are able to send an air-mail letter to South America for 1s. 6d., their initial weight being five grammes, whereas the minimum cost from this country is 4s., the initial weight being half an ounce; whether he has considered the representation of the London Chamber of Commerce that British firms are sending letters to France to be posted there in order to take advantage of the Continental low initial rate; and what, if any, cost would be incurred by the British Post Office in instituting a ½-ounce initial weight for air mail from this country?

Mr. Viant: I am aware of the fact that it is possible to send letters by air from certain European countries to South America at a lower minimum charge than it is from this country, but only the lightest letters come within the limit of 5 grammes, which is the equivalent of just over one-sixth of an ounce. On the other hand, it is appreciably cheaper to send a letter weighing approximately ½ ounce from this country than from any other European country. In my opinion, the remedy for the high initial fees lies, not in a reduction of the unit of weight, but in a reduction of the very high charge for transport on this service, which is 10 times greater than the charge made on the Indian Air Mail service. The answer to the second part of the question is in the affirmative. As regards the third part, any additional cost incurred would be reflected in the fees charged to the public.

Air Forces' Comparative Statistics

Mr. MONTAGUE, on March 11, in reply to Lieut.-Col. Gault, said the present first-line establishment of the Royal Air Force is approximately 790 aircraft; or—divided by categories—bombers and general purpose aircraft, 348; Army co-operation machines, 120; fighters, 156; flying boats, 25; Fleet Air Arm, 141.

Owing to differences in statistical methods and to other factors such as fluctuations in strength, which occur from time to time, it is difficult to supply precisely comparable figures for other countries, but the following table, based on the latest information available, gives the approximate total figures for the first-line strength: France, 1,320; Italy (including a temporary excess of about 100 aircraft over normal establishment), 1,100; United States of America, 1,050; Union of Soviet Socialist Republics, 1,000 (estimated).

Under the Treaty of Versailles the armed forces of Germany must not include any military or naval air forces.

The official information at my disposal does not enable me accurately to sub-divide the above totals between categories.

Royal Air Force Accidents

Mr. MONTAGUE, in reply to Mr. Wells, said during the year ending 31st December, 1930, there were 46 fatal accidents, involving 64 deaths, in the Royal Air Force.

The R101 Report

Mr. MONTAGUE, on March 12, replying to Sir W. Mitchell-Thomson and Lieutenant-Commander Kenworthy, said:—The report of the committee of inquiry into the loss of R101 has not yet been received by the Air Ministry, but I understand that it is complete and in the hands of the printers, save for a section dealing with the experiments carried out recently at the National Physical Laboratory. These experiments are considered to be of material value, and the Secretary of State concurs with the Court of Inquiry in thinking that the report ought to include a reference to their results. On this basis, he is informed that the Court hope that the report will be available for publication by the end of the month.

Privately-owned Aircraft Statistics

Mr. MONTAGUE, on March 18, in reply to Sir V. Warrender, said the number of registered privately-owned aircraft, including aircraft owned by civil flying schools and light aeroplane clubs, on December 31, 1928, 1929 and 1930 was 223, 328 and 499 respectively.

The number of persons killed while piloting or flying in privately-owned aeroplanes, including machines the property of flying clubs or used for instructional purposes, during the years 1928, 1929, and 1930 were respectively 10, 11 and 15.

A New Flying Suit

ONE of the chief drawbacks which has been levelled at the ordinary " Sidcot suit " type of flying clothing is that it is difficult and cumbersome to put on and take off and still more so to walk about in. Most of these faults have now, however, been overcome in a suit called the " Kestral," manufactured by D. Lewis, Ltd., 124, Gt. Portland Street, W.1. It looks rather like a soft leather " Sidcot " suit, but the tunic or body garment is actually independent of the trousers and can, if desired, be worn separately. All fastenings are made with rust-proof open-ended zippers with flaps behind them, ensuring protection from the wind. When on it looks exactly like the one-piece suit, but has none of its attendant disadvantages. The leather from which it is made is showerproof, with a fast dye and of exceptionally light weight. Altogether it appears an extremely suitable garment for those who like flying in machines with open cockpits.

IMPORTS AND EXPORTS

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910).

For 1910 and 1911 figures see FLIGHT for January 25, 1912.

For 1912 and 1913, see FLIGHT for January 17, 1914.

For 1914, see FLIGHT for January 15, 1915, and so on yearly, the figures for 1930 being given in FLIGHT, January 16, 1931.

Imports.		Exports.		Re-exports.	
1930.	1931.	1930.	1931.	1930.	1931.
£	£	£	£	£	£
Jan. 2,987	7,965	147,935	142,596	—	1,074
Feb. 2,460	3,303	226,049	110,587	1,000	1,293
5,447	11,268	373,984	253,183	1,000	2,367

PUBLICATIONS RECEIVED

Avigation. By H. H. Holland. New York and London: McGraw-Hill Publishing Co., Ltd. Price 12s. 6d. net.

Flying from the Ground Up. By R. S. Bowen, Jr. New York and London: McGraw-Hill Publishing Co., Ltd. Price 10s. net.

Catalogue

Aircraft Equipment. Brown Brothers, Ltd., Great Eastern Street, London, E.C.2.



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AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

APPLIED FOR IN 1929

Published March 12, 1931

1,783. M. O. DARBY and A. A. SIDNEY. I., C. engines. (343,097.)
24,382. P. SCATIZZI. Flying machines. (317,059.)
33,134. POPELAKOVA (née BURIANOVA). Aviators' equipment. (343,019.)
35,988. P. H. SANDS. Louvre ventilators for aircraft, etc. (343,195.)
39,799. ECLIPSE AVIATION CORPORATION. Engine-starting apparatus. (343,254.)

Published March 19, 1931

34,106. SCHNEIDER ET CIE. Anti-aircraft guns and vehicles for the transport thereof. (343,433.)
37,263. J. S. CRICK. Control of aeroplanes. (343,630.)
38,935. H. S. HELE-SHAW and T. E. BEACHAM. Variable-pitch aero-screws. (343,653.)

APPLIED FOR IN 1930

Published March 12, 1931

1,963. W. W. TRIGGS (Eclipse Aviation Corporation). Engine-starting mechanism. (343,281.)
3,461. A. W. HATFIELD and T. R. SWIFT. Bomb or projectile for aircraft use. (343,294.)

Published March 19, 1931

6,925. R. BEAUCAIRE. Starting and landing apparatus. (343,763.)
8,257. ROTH-BUCHNER A.-G. Reversible propellers. (343,777.)

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